

A PROPOSED TECHNIQUE FOR INVESTIGATING THE
RELATIONSHIP BETWEEN MUSICAL PREFERENCES
AND PERSONALITY STRUCTURE

by

Marcus E. Hahn

B.S. in Ed., Fort Hays Kansas State College, 1937
M.M.E., University of Kansas, 1947

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Advisory Committee:

E. Hayes Gentry
Chairman
Henry V. Smith
Weldon L. Zack

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TABLE OF CONTENTS

CHAPTER		PAGE
I.	THE NATURE AND EVALUATION OF RESPONSES TO MUSIC	1
	The problem generally stated	4
	The influences of music on behavior	6
	Philosophical concepts of the nature of musical responses	7
	Physiological responses	10
	Psychological responses	12
	Determination of musical preferences . . .	17
	Analysis of salient musical factors	20
	Clinical applications of the prediction and control of affective responses to music	27
II.	CONCEPTS OF PERSONALITY AND ITS ASSESSMENT	30
	Contemporary definitions of personality .	30
	Personality assessment	34
	Review of pertinent literature	41
	Personality structure and aesthetic appreciation	41
	Personality structure and musical preferences	45
	The problem specifically stated	55
III.	DESCRIPTIONS OF TESTS AND MEASURES	57
	The personality tests	57
	Rorschach Personality Test	57
	Thematic Apperception Test	60

CHAPTER	PAGE
Wechsler-Bellevue Intelligence Scale	61
Literal-Indirect-Exciting (LIE) Test	64
Aesthetic Preference Test	66
Humor Preference Test	68
Interview	69
Method of summarization of psychological data	70
The musical preference tests and measures	71
Keston Test of Musical Preference	72
Construction and administration	72
Scoring	73
Validity	75
Reliability	75
Daily Log	75
Forty-Eight Musical Excerpts Test	78
Five Preferred Recordings	81
Questionnaire on musical background and training	83
IV. EXTRACTION AND TABULATION OF MUSICAL PREFERENCE DATA	85
Collection of recordings preparatory to analysis	85
Criteria for the judgment of musical content	89
Tempo	92
Tone color	95

CHAPTER	PAGE
Staccato-legato	97
Dynamic changes in loudness	98
Pitch range	99
Sonance	100
Mode	102
Sedation-Stimulation	102
Rhythm	104
Harmonic structure	105
Formal structure	108
Type	111
Performance medium	113
Devices used in analyses of recordings	114
Coding of data on IBM cards	117
Evolution of musical preference indexes from frequency tabulations	121
V. RESULTS OF THE TESTS	126
Beta's personality	129
Overt life-plan	129
Values	129
Temperamental endowment	129
Covert structure	130
Conflicts	131
Assessment	132
Beta's musical preferences	132
Musical background and training	132

CHAPTER

PAGE

Participation in music.	132
Family musical history	137
Favorite vocalist	137
Favorite instrumentalist	137
Rank order of preferred types of music	137
Outstanding musical experience . . .	137
Record library	137
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	138
Daily Log	138
Five Preferred Recordings	138
Keston Test of Musical Preference . .	138
Interpretation of musical criteria scores	138
Tone color	138
Staccato-legato	139
Tempo	139
Sedation-stimulation	139
Dynamics	139
Harmonic structure	139
Rhythm	139
Formal structure	140
Type	140
Performance media	140

Summary statement	140
Lambda's personality	141
Overt life-plan	141
Values	141
Temperamental endowment	142
Covert structure	143
Assessment	144
Lambda's musical preferences	144
Musical background and training	144
Participation in music	144
Family musical history	148
Favorite vocalist	148
Favorite instrumentalist	148
Rank order of preferred types of music	148
Outstanding musical experience	148
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	148
Daily Log	148
Five Preferred Recordings	149
Keston Test of Musical Preference	149
Interpretation of musical criteria scores	149
Tone color	149
Staccato-legato	149

CHAPTER	PAGE
Tempo	150
Sedation-stimulation	150
Dynamics	150
Harmonic structure	150
Rhythm	150
Formal structure	151
Type	151
Performance media	151
Summary statement	151
Mu's personality	152
Overt life-plan	152
Values	152
Temperamental endowment	153
Covert structure	154
Conflicts	155
Assessment	155
Mu's musical preferences	159
Musical background and training	159
Participation in music	159
Family musical history	159
Favorite vocalist	159
Favorite instrumentalist	159
Rank order of preferred types of music	159
Outstanding musical experience	159

Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	160
Daily Log	160
Five Preferred Recordings	160
Keston Test of Musical Preference . .	160
Interpretation of musical criteria scores	160
Tone color	160
Staccato-legato	161
Tempo	161
Sonance	161
Sedation-stimulation	161
Dynamics	162
Harmonic structure	162
Rhythm	162
Formal structure	162
Type	162
Performance media	163
Summary statement	163
Pi's personality	163
Overt life-plan	163
Values	164
Temperamental endowment	165
Covert structure	166
Conflicts	167

CHAPTER

PAGE

Assessment	167
Pi's musical preferences	168
Musical background and training	168
Participation in music	168
Family musical history	168
Favorite vocalist	168
Favorite instrumentalist	172
Rank order of preferred types of music	172
Outstanding musical experience	172
Record library	172
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	172
Daily Log	172
Five Preferred Recordings	173
Keston Test of Musical Preference	173
Interpretation of musical criteria scores	173
Tone color	173
Staccato-legato	173
Tempo	173
Sedation-stimulation	173
Dynamics	174
Harmonic structure	174
Rhythm	174

CHAPTER	PAGE
Formal structure	174
Type	174
Performance media	174
Summary statement	175
Rho's personality	175
Overt life-plan	175
Values	175
Temperamental endowment	176
Covert structure	177
Conflicts	178
Assessment	178
Rho's musical preferences	179
Musical background and training	179
Participation in music	179
Family musical history	179
Favorite vocalist	179
Favorite instrumentalist	179
Rank order of preferred types of music	179
Outstanding musical experience	183
Record library	183
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	183
Daily Log	183
Five Preferred Recordings	184

CHAPTER

PAGE

Keston Test of Musical Preference . . .	184
Interpretation of musical criteria scores	184
Tone color	184
Staccato-legato	184
Tempo	185
Sedation-stimulation	185
Dynamics	185
Harmonic structure	185
Rhythm	185
Formal structure	185
Type	186
Performance media	186
Summary statement	186
Sigma's personality	187
Overt life-plan	187
Values	187
Temperamental endowment	188
Covert structure	188
Conflicts	190
Assessment	190
Sigma's musical preferences	194
Musical background and training	194
Participation in music	194
Family musical history	194

CHAPTER

PAGE

Favorite vocalist	194
Favorite instrumentalist	194
Rank order of preferred types of music	194
Outstanding musical experience . . .	194
Record library	194
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	195
Daily Log	195
Five Preferred Recordings	195
Keston Test of Musical Preference . .	195
Interpretation of musical criteria scores	196
Tone color	196
Staccato-legato	196
Tempo	196
Sedation-stimulation	196
Dynamics	197
Harmonic structure	197
Rhythm	197
Formal structure	197
Type	197
Performance media	198
Summary statement	198
Tau's personality	198

CHAPTER	PAGE
Overt life-plan	198
Values	199
Temperamental endowment	199
Covert structure	200
Conflicts	201
Assessment	202
Tau's musical preferences	202
Musical background and training	202
Participation in music	202
Family musical history	202
Favorite vocalist	206
Favorite instrumentalist	206
Rank order of preferred types of music	206
Outstanding musical experience	206
Record library	206
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	206
Daily Log	206
Five Preferred Recordings	207
Keston Test of Musical Preference	207
Interpretation of musical criteria scores	207
Tone color	207
Staccato-legato	207
Tempo	207

CHAPTER.	PAGE
Sedation-stimulation	208
Dynamics	208
Harmonic structure	208
Rhythm	208
Formal structure	208
Type	208
Performance media	209
Summary statement	209
Upsilon's personality	209
Overt life-plan	209
Values	210
Temperamental endowment	210
Covert structure	211
Conflicts	212
Assessment	213
Upsilon's musical preferences	213
Musical background and training	213
Participation in music	213
Family musical history	217
Favorite vocalist	217
Favorite instrumentalist	217
Rank order of preferred types of music	217
Outstanding musical experience	217
Record library	217

Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	217
Daily Log	217
Five Preferred Recordings	218
Keston Test of Musical Preference . .	218
Interpretation of musical criteria scores	218
Tone color	218
Staccato-legato	219
Tempo	219
Sedation-stimulation	219
Dynamics	219
Harmonic structure	219
Rhythm	219
Formal structure	219
Type	220
Performance media	220
Summary statement	220
Phi's personality	220
Overt life-plan	220
Values	221
Temperamental endowment	222
Covert structure	222
Conflicts	224
Assessment	224

CHAPTER

PAGE

Phi's musical preferences	225
Musical background and training	225
Participation in music	225
Family musical history	225
Favorite vocalist	225
Favorite instrumentalist	225
Rank order of preferred types of music	225
Outstanding musical experience	229
Record library	229
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	229
Daily Log	229
Five Preferred Recordings	230
Keston Test of Musical Preference	230
Interpretation of musical criteria scores	230
Tone color	230
Staccato-legato	230
Tempo	230
Sedation-stimulation	231
Dynamics	231
Harmonic structure	231
Rhythm	231
Formal structure	231

CHAPTER

PAGE

Type	232
Performance media	232
Summary statement	232
Chi's personality	233
Overt life-plan	233
Values	233
Temperamental endowment	234
Covert structure	234
Conflicts	236
Assessment	236
Chi's musical preferences	237
Musical background and training	237
Participation in music	237
Family musical history	237
Favorite vocalist	237
Favorite instrumentalist	237
Rank order of preferred types of music	237
Outstanding musical experience	241
Record library	241
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	241
Daily Log	241
Five Preferred Recordings	241
Keston Test of Musical Preference	241

Interpretation of musical criteria	
scores	242
Tone color	242
Staccato-legato	242
Tempo	242
Sedation-stimulation	242
Dynamics	242
Harmonic structure	242
Rhythm	243
Formal structure	243
Type	243
Performance media	243
Summary statement	243
Psi's personality	244
Overt life-plan	244
Values	244
Temperamental endowment	245
Covert structure	246
Conflicts	247
Assessment	248
Psi's musical preferences	248
Musical background and training	248
Participation in music	248
Family musical history	248
Favorite vocalist	252

CHAPTER

PAGE

Favorite instrumentalist	252
Rank order of preferred types of music	252
Outstanding musical experience	252
Record library	252
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	252
Daily Log	252
Five Preferred Recordings	253
Keston Test of Musical Preference . .	253
Interpretation of musical criteria scores	253
Tone color	253
Staccato-legato	253
Tempo	254
Sedation-stimulation	254
Dynamics	254
Harmonic structure	254
Rhythm	254
Formal structure	254
Type	255
Performance media	255
Summary statement	255
Omega's personality	255
Overt life-plan	255

CHAPTER

PAGE

Values	256
Temperamental endowment	257
Covert structure	257
Conflicts	259
Assessment	260
Omega's musical preferences	260
Musical background and training	260
Participation in music	260
Family musical history	260
Favorite vocalist	264
Favorite instrumentalist	264
Rank order of preferred types of music	264
Outstanding musical experience	264
Record library	264
Daily Log yield, Five Preferred Recordings, Keston Musical Preference Test score	264
Daily Log	264
Five Preferred Recordings	265
Keston Test of Musical Preference	265
Interpretation of musical criteria scores	265
Tone color	265
Staccato-legato	266
Tempo	266
Sedation-stimulation	266

CHAPTER	PAGE
Dynamics	266
Harmonic structure	267
Rhythm	267
Formal structure	267
Type	267
Performance media	267
Summary statement	268
VI. CRITICISM OF THE TECHNIQUES EMPLOYED . . .	270
Criticism of the psychological tests . .	270
Criticism of the measures of musical preference	271
Daily Log	272
Forty-Eight Excerpts Test	272
Five Preferred Recordings	273
Criticism of the criteria by which the music was judged	275
Type	275
Rhythm	277
Staccato-legato	277
Tone color and performance media . . .	278
Tempo	279
Dynamics	280
Sedation-stimulation	281
Formal structure	281
Harmonic structure	283

CHAPTER		PAGE
	Pitch range	283
	Sonance	284
	Summary statements of criteria	284
	Criticism of the techniques of recording, tabulation, and extraction of musical data	285
	Reaction form	285
	Master sheet	286
	The IBM code system	287
VII.	INTERPRETATION OF THE RESULTS	289
	Congruence of personality and musical preferences	289
	Effect of upward mobility on musical preferences	291
	The relationship of musical experiences to need structure	292
	Integrational level of the personality as related to definitiveness of musical preferences	304
	Relationships between musical preferences and certain Rorschach scores	305
	Conclusions	311
VIII.	SUMMARY, CONCLUSIONS, AND IMPLICATIONS	314
	Summary	314
	The problem	314
	Review of pertinent literature	315
	The subjects	316
	The psychological tests	317

CHAPTER	PAGE
The musical preference tests and measures	318
Keston Musical Preference Test . . .	318
Daily Log	318
Forty-Eight Excerpts Test	319
Five Preferred Recordings	319
Questionnaire on musical background	319
Extraction and tabulation of musical preference data	319
Analyses of the recordings	320
Coding of the data on IBM cards . . .	320
Tabulation and scoring of the data .	321
Presentation of results	321
Criticism of the techniques employed .	322
Keston Musical Preference Test . . .	322
Daily Log	323
Forty-Eight Excerpts Test	323
Five Preferred Recordings	324
Questionnaire on musical background	324
Criteria of the musical judgments . .	325
Manner of interpreting the results . .	325
Conclusions	326
Implications	330
BIBLIOGRAPHY	333

CHAPTER		PAGE
APPENDIX A	Scores of the Psychological Tests . .	342
APPENDIX B	The Keston Test of Musical Preference	350
APPENDIX C	The Forty-Eight Excerpts Test	358
APPENDIX D	Questionnaire on Musical Background and Attitudes	363
APPENDIX E	The Master Sheet	367

LIST OF TABLES

TABLE	PAGE
I. Beta's Scores on the Various Measures of Musical Preference	133
II. Lambda's Scores on the Various Measures of Musical Preference	145
III. Mu's Scores on the Various Measures of Musical Preference	156
IV. Pi's Scores on the Various Measures of Musical Preference	169
V. Rho's Scores on the Various Measures of Musical Preference	180
VI. Sigma's Scores on the Various Measures of Musical Preference	191
VII. Tau's Scores on the Various Measures of Musical Preference	203
VIII. Upsilon's Scores on the Various Measures of Musical Preference	214
IX. Phi's Scores on the Various Measures of Musical Preference	226
X. Chi's Scores on the Various Measures of Musical Preference	238
XI. Psi's Scores on the Various Measures of Musical Preference	249
XII. Omega's Scores on the Various Measures of Musical Preference	261
XIII. Scores of the <u>cF</u> and <u>Fc</u> Determinants of the Rorschach Personality Test	307
XIV. Rorschach Personality Test Scores	343
XV. Wechsler-Bellevue Intelligence Scale Scores	345
XVI. Aesthetic Preference Test Scores	346

TABLE	PAGE
XVII. Humor Preference Test Scores	348
XVIII. Sentence (Literal-Indirect-Exciting) Test Scores	349

CHAPTER I

THE NATURE AND EVALUATION OF RESPONSES TO MUSIC

The vast majority of investigations in the areas of human behavior have been efforts to reveal and diagnose causes and to prognosticate results. Prognosis is dependent in part, if not wholly, upon diagnosis. If the latter fully reveals the truth, a prognosis can be made efficiently and accurately. In many cases the act of making a prognosis involves an overt, calculated shaping of the environment surrounding the organism in such a way as to effect a desired, predetermined course of behavior. A determination of what this course of behavior shall be gives rise to certain moral and ethical implications. The responsible citizen, the educator, the doctor, the cleric, the judge, and the statesman, to mention a few, profess to be vitally interested in the betterment of humanity. In their efforts to achieve this goal they attempt to shape future events, including human conduct, so that their criteria of betterment are satisfied in so far as possible.

The assumption is made that the investigations in the broad fields of medicine, psychology, education, and religion are, on the whole, worthy enterprises, since they strive first to understand man, and second, on the basis of such understanding, to shape events toward his

betterment -physically, mentally, and morally. One small area of investigation embraces the effects of music on human behavior. The dictum which states that music is good in and of itself, and that it can and does influence human behavior has been empirically verified according to criteria ranging from the rigidly scientific to the metaphysical. Investigation in this area, as has been the case in many other areas, must progress through the continuum of rank conjecture based on few and imperfect scraps of evidence toward greater certainty of analysis and prediction. The dictum stating that music can and does affect human behavior is certainly more than pure conjecture. But the more significant questions regarding the discovery of affective factors in music, their influences on the individual, and their eventual manipulation and control remain largely unanswered. Present investigations must lie somewhere between the extremes of conjecture and complete certainty.

One of the factors of major and crucial importance which complicates investigations in this area is the uniqueness of the individual response. It is improbable that a person will ever respond twice to the same music in exactly the same way, and it is even more improbable that any two individuals' responses will ever be exactly the same to any given musical stimulus. The prime determinant of the individual's response can largely, if not entirely, be

accounted for by his needs at the moment of listening. Since needs are a dynamic determinant of human behavior, which in turn are dependent upon a multiplicity of intra and extra-organic forces, they constantly fluctuate in quality and intensity. Music which may fulfill a person's needs at one moment may actually be shunned a short time later. Even the music itself becomes one of the influencing forces upon need and can extend, fulfill, or thwart it.

In recognizing the variability of human needs the assumption should not follow that they are chaotic, unrelated, and are never approximated at recurring intervals. If this were true such a study as this would be pointless. Although a given need is always unique, it can and often does reoccur with many of the same essential factors present. An individual may "need" to hear music of a certain strongly rhythmical, dynamic, and staccato nature and then a long time may elapse before the need is felt again. If he prefers, i.e., needs, to hear such music much more than music of differing and/or contrasting qualities, it may be said that this is a characteristic and predictable preference. Vegetative needs are quite predictable; psychic needs, which include musical needs, are more complex, but frequently of such a nature that their general quality and intensity may be assessed and predicted with reasonable accuracy.

The Problem Generally Stated

This study is concerned primarily with the development of a technique which will permit thorough investigation of the relationships that may exist between personality characteristics, the eliciting of musical likes and dislikes, and the analysis and description of salient factors in the music.

As was indicated in the discussion above on "need," the problem becomes much more complex and the techniques used in attacking it become much more crucial when relationships are to be established between individuals classified according to personality types and those musical factors to which they respond--either positively or negatively. These relationships have yet to be determined and verified, as a subsequent review of pertinent literature will show. Empirical observation and a few bits of evidence seem to lend some support to the hypothesis that individuals whose personality structures are qualitatively and quantitatively essentially the same tend to have somewhat the same likes and dislikes in music. If the hypothesis is proved, then the prediction, within broad limits, of the musical preferences of a known personality becomes possible.

In working out a technique whereby this problem can be attacked, and reliable and valid data may be secured, it seems apparent that the following major steps must be taken:

1. Analysis must be made of the personality structures of a significantly large number of people followed by the grouping of them according to certain significant personality variables.
2. The musical preferences and rejections of these individuals must be elicited and analyzed to determine salient musical factors.
3. A comparison can then be made between personality types and their musical preferences to determine whether significant relationships exist or not.

Fortunately the psychologist has been at work on the problem posed in the first step for many years and has developed techniques of investigation which have proved to be, in most cases, adequately reliable and valid. On the other hand, compared to the vast amount of research that has and is being done by the psychologist on the nature of personality, little has been done toward solving the problem posed in the second step above. It is especially necessary here to devise techniques of investigation where none now exist, or which exist incompletely or imperfectly. This is a complex problem of which the solution is the sine qua non of the solution to the problem posed in the third step above. The solving of this last problem should prove or disprove the hypothesis that like personalities have like musical preferences.

Again it must be stated that this study is concerned primarily with the working out of a technique of investigation which will adequately and efficiently provide pertinent data on the individual's personality structure and his musical preferences, the efficient means and methods of processing such data, and the outlining of the administration of subsequent needed research.

The Influences of Music on Behavior

The affective responses to certain types of musical stimuli are more or less stereotyped and so can be discovered and analyzed with some degree of objectivity. Conformity to established patterns of response enables one to predict an individual's response within certain wide limits. This is of extreme importance since heterogeneity of response would preclude many of the practical or clinical applications of music with any degree of success. Average responses to musical stimuli seem to be primarily determined by the most gross and significant aspects of music. The almost infinite number of refined subtleties that exist in the music, even if detected by the listener, provoke so wide a variety of response that an "average response" to these more subtle factors is unrecognizable. Thus the response to music with a fast tempo and pronounced rhythm can be predicted with good success, but some of the more

subtle and perhaps more profound influences of melody, tone color, harmonic structure, and formal structure are more difficult to determine and predict.

Philosophical Concepts of the Nature of Musical Responses.

Aestheticians and philosophers have attempted to explain human reaction to musical sounds according to non-scientific criteria. Some of their theories are provocative and many appear to be based upon sound psychological evidence. The psychiatrist has also taken an active interest in the phenomena of musical responses. Coriat¹ claims that the aesthetic effect of music is the result of three factors: compulsive repetition, pleasure in economy, and the force of attraction exerted by the unconscious.

The peculiar effect of music consists in the induction of narcissistic and erotogenic pleasures; therefore music expresses feelings and their relations; its absence of objective content corresponds with its narcissistic nature.²

The pleasure principle appears again and again in the writings concerning the affective effects of music.

Of all the arts music is least contained by objective

1 Isador H. Coriat, "Some Aspects of a Psychoanalytic Interpretation of Music," The Psychoanalytic Review, Vol. 32, 1945, pp. 408-18.

2 Ibid., p. 408.

phenomena. Its pathway to the conscious and particularly the unconscious is direct and remarkably free of intermediary symbolism. The effects produced resemble to a great extent the psycho-physiological reactions to an emotion in the personal sense. Yet, though the "emotion" produced is of a highly personal character, it is a peculiarly unique emotion which can only be associated with the aesthetic. There is general agreement that music produces this aesthetic emotion with the greatest directness and ease. Révész³ calls it a "specifically musical emotion."

. . . It would be incorrect to assume that music is so bound up with our feelings and emotions as to be properly regarded as the adequate expression of these--a view that has already been refuted by Hegel and Schopenhauer, and which has been embodied in the theories of music expressed by various students of aesthetics. The emotions excited by music are specifically musical emotions, and even if they are not of a purely musical character, the musical element in them is the element sustaining the whole.⁴

The emotions of joy or grief, for example, are universal emotions, not identified with any object, yet they are personal in the sense that their unique structure is found only within the individual.

Altshuler⁵ supports Révész's rather Freudian approach

³ Geza Révész, The Psychology of a Musical Prodigy. New York: Harcourt, Brace and Co., Inc., 1925.

⁴ Ibid., p. 19.

⁵ Ira M. Altshuler, "Four Years' Experience With Music as a Therapeutic Agent at Eloise Hospital," American Journal of Psychiatry, Vol. 100, 1944, pp. 792-4.

to the pleasure principle.

Why does music affect human beings? Because tone and rhythm, put into proper order, appeal to the pleasure principle. Musical rhythm . . . affects the Id, offers an opportunity for the ego to indulge in open erotisation . . . The raw material of music is intimately linked with instinctual drives.⁶

The association of music with instinctual drives is interpreted in much the same way by Mosonyi.⁷

The irrational basis of music is manifest from the point of view of psychoanalysis in consideration of its connection with the pleasure principle as opposed to the reality principle. There is much evidence that music, in its original form, arises from unpleasure. It develops as a means of irrational expression of powerful instinct inhibited in other directions. . . . The direct application of this theory of music as a narcissistic fulfillment is mainly to primitive and non-instrumental music.⁸

The affinity of bodily movement to musical rhythm and the sensuously symbolic vocal inflections of much primitive music associated with totem and tabu are observable evidences of its close association with instinctual drives.

It is certainly not within the province of this study to explain why humans react to music as they do. As it has been previously pointed out, such explanations demand the training of a psychiatrist as well as that of a musician.

⁶ Ibid., p. 793.

⁷ D. Mosonyi, "Die Irrationalen Grundlagen der Musik," Imago, Leipzig, Vol. 21, 1935, pp. 207-26.

⁸ Ibid., p. 207.

The above theories merely indicate that there is a sound and logical system of dynamics upon which the individual responds to music. If it were not true that the physiological concomitants of affective reactions were basically the same for all people and that accompanying psychological reactions show sufficient agreement that average modes of response can be established, then the proposed investigation would prove fruitless. Moreover it is the interaction between the individual and the musical stimulus that must be studied as a meaningful entity. The problem of accurate analysis is so complex that inferences most probably will outnumber conclusions.

Physiological Responses

Physiological changes accompanying and caused by musical stimuli have been demonstrated and verified. No attempt will be made to document this statement here since its validity has been so ably established in several summaries, most recent of which is the one made by Soibelman.⁹ Music can increase or decrease rate of respiration and pulse, stimulate or inhibit blood flow, affect muscle tone, raise or lower sensory thresholds, influence blood sugar

⁹ Doris Soibelman, Therapeutic and Industrial Uses of Music. New York: Columbia University Press, 1948, Chapter III.

content and cause changes to occur in electrodermal responses. In most cases and with certain types of musical stimuli, the individual's responses can be predicted and controlled within broad limits. This fact has been and is now being exploited in industry and hospitals. Under suitable working conditions and with wisely chosen music, individual output has been increased, fewer accidents have occurred, and the worker has been a happier person. More and more hospitals are using music both as an adjunctive therapeutic agent in hydrotherapy, shock therapy, anesthesia, motor reflex rehabilitation, and as a contributor to the general well-being of the patient.

A study of physiological changes in themselves will not reveal in detail the true nature of the total response of the individual, much less the nature of the musical stimulus. Physiological changes occur in essentially the same manner for men of all races and cultures, whatever the musical stimuli which set them off may be, and thus there is a common physiological basis upon which man responds to music. An investigation of the physiological response may offer a clue but not a solution to the individual's psychological reactions. For example, increased respiratory and pulse rate, blood sugar content, and muscular tension could be the physiological concomitants of either an ecstatically pleasurable or acutely unpleasurable listening response. Similarly, such physiological responses may be identical

for the exhibition of two opposed personality traits. The ease and frequency of their provocation by musical stimuli could be, on the other hand, a valid criterion of an individual's responsiveness or unresponsiveness to music in general or to a given type of music.

Psychological Responses

Though physiological and psychological responses to musical stimuli are codetermined and mutually inseparable in their actual occurrence, one usually investigates a particular facet or facets of the total response because of its complex nature, and on the bases of numerous such investigations may begin to arrive at some real understanding. Most investigations by far have dealt with the psychological reactions to musical stimuli. Data has been gained chiefly through introspective techniques. Little attempt has been made to investigate the "why" of musical responses. For the musician who is not a psychologist and psychiatrist as well, the question of "why" must be put aside, dealt with superficially in theorization, or passed over to investigators trained in these fields. Probably much future investigation which will significantly contribute toward a thorough understanding of responses to musical stimuli will be done by teams of trained musicians, psychologists, and psychiatrists.

Any individual's responses to a given musical stimulus may at times exhibit variances and complexities which deviate from his normal responses. It is assumed, however, that once an individual's average responses to given stimuli are known, one can rely upon them to remain stable enough that adequately reliable predictions of them can be made. It is important to be able to identify and make allowances for certain important determining factors in the development of an individual's musical likes and dislikes. Deviations from the usual or average response may be caused by anyone or all of the following factors.

The immediate affective set of the individual plays a role in determining the sort of response that will be elicited. Since the affective set may vary not only from day to day but even from moment to moment, the individual's responses for any given musical stimulus may vary considerably.

Another determining factor is the individual's musical experience and appreciation or, more properly, his affective response is often determined by musical insight. Insight is not thought of here as being merely intellectual awareness, but more especially of the ability to respond, either positively or negatively, to music with an increasing differentiation. The response itself is not primarily determined by an intellectual awareness and judgment of the music, but

is immediate and to a large extent unconscious. However, the more penetrating the insight becomes, the more likely is it to affect qualitatively and quantitatively the individual's response.

Musical experiences cannot occur in a vacuum and are bound up with associations of a highly personal nature. These associations are a third determining factor of the individual's responses to music. These associations may play a significant role in the pleasure one gets from a given piece of music. They are not always recalled at the moment of hearing. Indeed, they may have long since descended into the subconscious, but their influence is no less real.

Of these three determining factors of the quality and depth of response to music, the first one concerning the affective set of the listener will probably cause the investigator the most trouble. As the mood of the individual changes it may appear that his musical preferences change also. This would be particularly disconcerting to the investigator conducting a short term study. If the individual is carefully observed over a long enough period of time, his typical and significant general behavior patterns should become apparent.

In spite of these complexities and variations, average orders of response have been established for certain

homogeneous groupings of individuals. The assumption to be tested in this study and subsequent studies is that such an average order of response exists for the individual as well. Mull¹¹ investigated the preferred regions in musical compositions of thirty "musically sensitive" music students of college age. She sought to determine (1) how much agreement exists among this group as to which parts of a musical composition are especially pleasing and (2) to note the salient factors in those portions of the music that was preferred. She concluded that there was no region in any of the compositions studied which was especially liked by the subjects even though they belonged to a fairly homogeneous musical group. It is not particularly surprising that Mull's conclusion is a negative one. If the students had been grouped according to criteria other than that of being "musically sensitive," e.g., such as is proposed in this study--according to personality type--perhaps a positive correlation could have been established. However, those regions which were preferred by at least half of Mull's group proved in the main to be repetitions, sometimes slightly varied, of former well-liked themes. Upon successive hearings of these regions the pleasurable affect was produced earlier in the course of the composition as though the preferred region itself was a

11 Helen K. Mull, "Preferred Regions in Musical Compositions and the Effect of Repetition Upon Them," American Journal of Psychology, Vol. 53, 1940, pp. 583-6.

goal that was anticipated with more and more pleasure.

The aesthetic principle of preparation-facilitation is demonstrated in the above study since the listener is prepared, through past musical experiences, (in this case familiarity with what is coming) to expect a certain thing to happen. As it does happen, i.e., as it is facilitated, the resultant effect upon the listener is one of pleasure and release. Krugman's study¹² done with a small number of subjects, nine, supported his contention that "a positive affective shift can be produced by sheer repetition of musical experience, regardless of the classical or non-classical character of the music." The music heard by his subjects was originally not liked by them. After hearing it once a week for eight weeks it was disliked less. Needless to say, "sheer repetition" should be qualified. Without proper spacing of the musical stimulus there can be a point of diminishing return--a point where pleasure begins to wane. Rubin-Rabson¹³ also found that familiarity with types of music plays a significant role in how well it is liked. She played two minutes each of twenty-four standard orchestral

12 Herbert E. Krugman, "Affective Response to Music as a Function of Familiarity," Journal of Abnormal Psychology, Vol. 38, 1943, p. 392.

13 G. Rubin-Rabson, "The Influence of Age, Intelligence, and Training on Reactions to Classic and Modern Music," Journal of General Psychology, Vol. 22, 1940, pp. 413-29.

compositions ranging from classical to modern music for seventy adults ranging in age from twenty to seventy years. Their musical training and intelligence were determined. The reaction of the groups was most favorable to the most familiar types (i.e., classical harmonies, melodies, and forms) of music, diminishing in proportion as increased distortion of the familiar obscured recognizable melody and form.

Determination of Musical Preferences

Most data on musical preferences have been the results of a single test wherein the subject was presented with a fixed number of musical stimuli and then asked to indicate his preferences. There are several criticisms that might be leveled against this procedure.

First, the musical stimuli have been either arbitrarily chosen, or chosen according to rather esoteric criteria, and the subject has had to make his choice regardless of how much or how little he liked the music. In many cases it must have been a matter of choosing the least disliked from among two or more "evils." If, however, the test is of sufficient length and range that it covers several examples of all types of music, and if the test is representative of a significantly large portion of musical literature, fairly valid results may be obtained. A pronouncement on an

individual's preferences provided by any less a comprehensive test must certainly be tenuous and much qualified.

Second, the distinction has not always been made between an individual's true and spurious preferences. Often this is not the fault of either the investigator or the subject but rather is an unfortunate and unavoidable attenuating factor. The same difficulties arise in using introspective techniques in personality assessment, but there the psychologist is most cautious about taking verbal responses at their face value. The subject may give an intellectually honest answer that is not truly representative of his feelings in the matter, or with deliberate dishonesty seek to color or enhance his position by giving false answers. The test situation should so be devised that temptation to falsify, or opportunity for honestly given but incorrect answers can be minimized as much as possible. Different kinds of tests and the careful weighing of discrete bits of data against the total response can serve as validation procedures.

Third, an assumption on the part of the investigator can easily be made that he is eliciting from his subjects true preferences, rather than intellectual judgments. Here again voluntary or involuntary dishonesty on the part of the subject plays an important role. Through a recognition of composer, composition, musical style, or other clues, the subject may choose as his preference that which he previously

has judged best according to aesthetic criteria of excellence. It is true that a valid preference and the aesthetically "best" musical stimulus may be the same for an individual, but the attenuating effect on the raw data when this is not the case should be properly evaluated and allowance made for it.

Fourth, nearly all investigations have consisted of one or several spot tests. Taking a cue from the many-angled approach of the investigator of personality structure, a similar approach may be best for determining musical preferences. Not one particular test, but a series of varied tests run over a period of at least several months should provide much more valid and usable data.

Fifth, the attenuating effect induced by the "test situation" cannot be discounted. Administratively, this is the most serious obstacle to overcome. Much of the data secured from a many-sided approach must of necessity be gained from a "test situation," but other contributory and validating means of gathering data can be devised and employed.

Data will be most valid, then, when tests are truly and comprehensively representative of significantly large areas of inquiry; when many different kinds of tests are run over a long period; and when the artificialities induced by the test situation are minimized. The hundreds of

musical preferences thus elicited must be examined for salient musical factors which appear with sufficient frequency and consistency to be considered significant.

Analysis of Salient Musical Factors

The psychiatrist and psychologist have shown that even though the human being is a psychophysiological complex organism he can be analyzed and described in fairly objective and universal terms, and that his behavior in a given situation can most often be predicted with practical reliability. In order to make a comparison of the individual and his musical preferences, those preferences must also be verifiable and stated in universally understood terms. This is no less of a difficult job than that of analyzing personality structure. The purely physical aspects of a musical stimulus may be identified with considerable objectivity, but a recital of such physical factors as intensity, pitch, tempo, tone color, and similar factors is of only partial significance to the individual's interpretation and reaction to musical sound. These physical factors are not apprehended as discrete entities, though they may be measured as such. Even if all contributory influencing factors in the individual were held constant, the slightest change in any one of the physical factors of the musical stimulus could effect a profound change in the individual's

reaction to it. Such factors should be identified and measured, however, in an effort to determine their relative significance to the total reaction.

Many features of a musical stimulus will not lend themselves so readily to objective evaluation. Mood effects are often ascribed to certain types of music. Usually this must be a purely subjective evaluation on the part of every individual. There are some gross aspects of musical stimuli, however, which have been described in terms of mood or emotional reaction with sufficient frequency and agreement that such descriptions may be considered reasonably reliable and valid. For example, it is generally agreed that fast tempos are stimulating or exciting. This is certainly true in the majority of cases.

The less objective the musical factors become, the less agreement there is as to their nature or even their existence. As many of them as possible should be sought out and verified within useful limits. Music, like the living organism, is a dynamic phenomenon, changing its nature from moment to moment, yet exhibiting certain stable, identifiable traits. A thorough, static description, even if possible, of a given moment in time is of little value in helping one to understand and predict dynamic phenomena. But, like the individual whose dynamism is subject to direction and control of constant factors, music must come into being and progress

according to its own peculiar, constant factors. If this were not true, then an investigation into the relationship between personality structure and musical preferences would be fruitless if not pointless.

Leaving aside the determination of the more objective factors of a musical stimulus, the search for other factors poses certain problems. The immediate problem is one of discovering those factors which exist generally in all music--at least music within our culture--and then in describing them with sufficient specificity that they will contribute efficiently toward an accurate description of the total stimulus.

The technique employed most often is that of subjecting varied musical stimuli to groups of judges for description and then examining their data for consistency and agreement. Hevner¹⁴ in several separate investigations sought to test the generally accepted statement that minor mode music is characteristically "sad" music and that major mode music is characteristically "happy" music. Two hundred and five college sophomores were presented with pairs of short compositions in major and minor modes and were asked to check a widely varied list of adjectives after hearing each

¹⁴ K. Hevner, "The Affective Character of Major and Minor Modes in Music," American Journal of Psychology, Vol. 47, 1935, pp. 103-18.

composition. Their choices of adjectives correlated highly with those which are commonly applied. Heinlein¹⁵ raised the question that these were a posteriori judgments based upon a prior knowledge of mode and popular descriptions of mode. Hevner¹⁶ criticized Heinlein's use of discrete chords contending that regardless of musical training or a posteriori judgment, mode, when heard in a musical context, is consistently judged in the same way. She stressed the significance of the relationship between the music and its listener and readily recognized that both are dynamic factors which produce unique situations. Her position is summed up in the statement that

A perfect agreement, an absolute universality and a rigid symbolism are most certainly disclaimed. We must study not the music alone, nor the listener alone, but the relation between the two.¹⁷

Certainly not all compositions in the minor mode are melancholy. While modality can be objectively determined it may be described in widely varied terms even when for a given composition there is a significant degree of agreement. The fact that for much music useful descriptive adjectives

¹⁵ C.P. Heinlein, "The Affective Character of Music," Proceedings of the Music Teachers National Association, Vol. 33, 1938, pp. 218-26.

¹⁶ K. Hevner, "The Affective Character of the Major and Minor Modes in Music," Journal of Comparative Psychology, Vol. 8, 1928, pp. 101-42.

¹⁷ _____, "Studies in Expressiveness in Music," Proceedings of the Music Teachers National Association, Vol. 33, 1938, p. 201.

can be found about which there is general agreement is more significant than agreement as to the inherent qualities of any discrete musical factor per se, such as modality, tempo, and intensity, to mention a few. It may be said, for example, that in general, minor mode music is sad or melancholy, but this effect is mitigated, sometimes to a very great extent, by the combined effects of all other musical factors.

Hevner¹⁸ investigated other objective factors in music and has presented them in summary form.

Sixty adjectives were arranged in eight groups, each of which contained adjectives that were synonymous within fairly narrow limits. Her subjects listened to a composition, checking those adjectives which best represented the "meaning" of the music. It was concluded that

The meaning of music within broad limits is one and the same for listeners of all kinds, the intelligent and unintelligent, the trained and untrained, although those who have the most training differentiate more sharply and with greater ease.¹⁹

The most significant thing to be gained from these studies is that people generally do agree upon the "meaning" of most music when they are asked to make an intellectual judgment. A distinction should be made between a subjective judgment or evaluation which is usually done at an intellectual or

¹⁸ Ibid., pp. 199-217.

¹⁹ Ibid., pp. 207-8.

cognitive level, and an affective or emotional response in which cognition or intellectualization most often plays a minor role. Music which is slow, legato, soft and lyrical may be judged to be physically sedative--and it usually is for most people. However, the affective response of some individuals may be the opposite of what is expected. Judgments and evaluations may be made in answer to the question, "What is the music like in terms such as tempo, dynamics, chord structure, formal structure, tone color, and staccato-legato?" Further judgments may be made in answer to the question, "What is the general or accepted meaning of certain typical and fairly well defined types of musical content?" But, judgments concerning the questions, "What is the affective response of the individual?," "What, specifically, does the music mean to him?," are much more difficult, often impossible, judgments to make. In a clinical or educational situation answers to the first two questions will make the employment of music more feasible in its administration through a universally understood system of description of salient musical factors, but the individual upon whom the music is employed will, in the final analysis, determine its content.

Watson²⁰ also found that "musical meanings are determined

20 K.B. Watson, "The Nature and Measurement of Musical Meanings," Psychological Monographs, American Psychological Association, Vol. 54, No. 2, 1942, 43 pp.

by constant factors in the music itself--that they are not determined by purely fortuitous subjective variables."²¹ His subjects were asked to make judgments regardless of the quality or intensity of the affective reactions the music may have evoked in them. A pilot study was first run to select a list of musical meanings. The test itself was given to two hundred students in each of grades 6, 7, 8, 10, and 12 and in college. One hundred graduate students were used and twenty postgraduate experts. From a list of fifteen "meanings" determined by the pilot study the subjects made a first, second, and third choice which best described the meaning of the music to which they were listening. The significant degree of agreement found was further supported by data obtained from subjects at different grade-levels. Consistency in the interpretation of music was demonstrated by (1) approximately the same relative degree of meanings being attributed to music at all levels, (2) the musical characteristics (pitch, loudness, speed, pleasantness of sound, dynamics, and rhythm were noted for each composition used) of the different meanings being approximately the same at all levels, (3) the interrelation of the different meanings being approximately the same at all levels, and (4) the fact

²¹ Ibid., p. 22.

that changes in meaning could be predicted on the basis of controlled changes in the musical attributes of the selection.

These studies indicate that it is quite possible that one may analyze the musical preferences of an individual with some degree of specificity even for such subjectively ascribed variables as "meaning" and "mood." In comparison, the determination and description of the more objective factors of music such as tempo, rhythm, and mode, should be achieved much more easily. All of these musical characteristics or factors will be needed to answer the question, "Now that the subject has indicated his strong likes and dislikes in music, just what is this music like? Can it be described with reasonable objectivity and in widely understood terms?"

Clinical Applications of the Prediction and Control of Affective Responses to Music

The role of music as an adjunctive therapy in mental hospitals is gradually assuming larger and more significant proportions. Acceptance and sponsorship of music therapy by the medical profession has been slow primarily because only the beginnings of research have been made in an effort to establish its therapeutic value. One of the most important objectives of researchers is to establish a means for predicting and controlling the responses to musical stimuli.

The present study is directed toward that end. It is significant that doctors and psychiatrists generally have sufficient faith in the use of music in certain clinical situations that they are lending their active support toward experimentation in this area. Veterans hospitals after World War II have been especially active in setting up music programs for recreational and therapeutic purposes. Personnel are now being trained as music technicians in increasing numbers for work in hospitals and industry.

The actual employment of music as an adjunctive therapy has been a process of trial and error based most often on rather tenuous inferences, in an effort to discover what music will produce a desired effect. In most cases this must be done on an individual basis. It is time-consuming and inefficient. In the final analysis the music must be directly related to a particular individual, but if it were possible to devise more efficient techniques of inquiry to determine what sort of music will produce a desired effect, and then to evolve subsequent techniques on its application, the economy achieved in time, money and personnel should make the effort quite worthwhile.

Since the individual response to music, in spite of certain ill-defined constants, varies from person to person as well as within the person from moment to moment, it is apparent that vast musical resources are needed to provide

long periods of music, when necessary, that have certain and peculiar salient characteristics. A technique is needed to categorize and analyse thousands of compositions performed by every type of medium. Criteria for categorization and a method of easy access to a designated type of music should be devised. It is hoped that this study will provide a technique that will bear these fruits.

CHAPTER II

CONCEPTS OF PERSONALITY AND ITS ASSESSMENT

Contemporary Definitions of Personality

Because the individual's personality embraces a large and complex number of variables, it is necessary to arrive first at a concept of the nature of personality before one can begin to seek out and identify these variables.

Numerous definitions of personality exist. Many of these overlap and many others are antagonistic to each other. Allport¹ summarized some of the attempts at definitions and distinguishes fifty different definitions or concepts. The criteria for determining a definition generally fall into two categories. On the one hand, the criteria are dependent upon subjective organization and function of the individual. Foreign writers, notably German, have tended to follow this tack. On the other hand, criteria are primarily dependent upon the outward or objective behavior of the individual as determined by certain laws. This nomothetic approach has generally been followed by American writers.

¹ Gordon W. Allport, Personality: A Psychological Interpretation. New York: Henry Holt and Co., 1937.

Though seemingly contradictory, these two approaches to the difficult problem of the assessment of personality are in reality complementary. In contemporary investigations this is particularly apparent in the methods and procedures used, wherein the individual is studied from as many angles as possible or feasible in order to secure more valid data.

In America three differing though somewhat complementary views regarding the nature of personality and methods for its investigation are represented by the works of Allport, Murray, and Lewin. For Allport, "Personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment."² His emphasis is on the individual personality as it exists at the moment. The effects of the past upon the individual are of less importance than his present personality organization. Allport stresses the uniqueness of this organization; the individual is a highly differentiated pattern of personality characteristics that from moment to moment touches and influences his environment and in turn is influenced by it. The effects of the past are not denied, but assume a secondary and non-crucial role in the individual's present reactions and adaptations

² Ibid., p. 48.

to his environment. Allport's concept of personality has led him to use techniques of investigation which primarily are characterized by judgments, ratings, and personality tests.

Murray's approach³ is Freudian and psychoanalytic in character. Present behavior is explained and predicted on the basis of the individual's past experiences and their cumulative and mutually influencing effects. He states that:

Perhaps the most potent reason for selecting the Freudian approach was that we wanted, first of all, to investigate personality as a series of genetical experiences, and Freud's theories seemed to provide, if not the open sesame, the only comprehensive and coherent scheme for dealing with the events and fantasies of infancy.⁴

Apperceptive tests, free association, dream analysis, and the case history are the primary tools for investigation into the nature of personality. The effect of the unconscious is, for Murray, of extreme importance in the determination of personality structure.

While Allport is concerned with the immediate present state of the unique individual, and Murray is concerned with a psychoanalytical approach to it which deals with much of the past, the topological vector psychology of Lewin⁵ stresses

3 H. Murray, et al, Explorations in Personality. New York: Oxford University Press, 1938.

4 Ibid., p. 722.

5 Kurt Lewin, A Dynamic Theory of Personality. New York: McGraw-Hill and Co., 1935.

the effect of the immediate environment upon the individual. This Gestalt approach is characterized by the attempt to establish general laws of organization within the individual's immediate behavioral field. Investigation of personality structure is primarily carried out by researchers following this approach through controlled environmental manipulation or experiment.

The theories of these three men are perhaps the most vital and individual treatments of the nature of personality extant today. Rosenzweig⁶ has made an analytical comparison of these three theories based upon their objectives, methods of study, and leading concepts, and he believes that while

. . . Allport emphasizes the personality as it now appears within its own boundaries, Murray queries how it got that way from past experience, and Lewin studies its interaction with the present environment, the general orientations admit of easy reconciliation.⁷

This is borne out by the fact that Allport has since inquired rather extensively into methods for studying the life-history of the individual; Lewin has become interested in the relationships of his system to psychoanalysis; and Murray has adopted many of Lewin's procedures.

A definition which correlates the nomothetic and

⁶ Saul Rosenzweig, "Converging Approaches to Personality: Murray, Allport, Lewin," Psychological Review, Vol. 51, 1944, pp. 248-56.

⁷ Ibid.

idiographic approaches to the problem of personality is given by Eysenck:⁸

. . . Personality is the sum-total of the actual or potential behavior-patterns of the organism, as determined by heredity and environment; it originates and develops through the functional interaction of the four main sectors into which these behavior-patterns are organized: the cognitive sector (intelligence), the conative sector (character), the affective sector (temperament), and the somatic sector (constitution).⁹

It is in this sense that personality structure is conceived in this study, and this sense which has determined the methods and direction of investigation.

Personality Assessment

The basic concept of personality which an investigator possesses will inevitably shape his methodologies and procedures of research in that area. Those who conceive of the personality as consisting of a collection of salient behavior patterns which added together comprise the unique individual, most often tend to set up research techniques which will test for one or a few factors at a time. In some instances the single variable approach can be used with a claim to validity, but on the whole, students in the area of personality are putting less and less faith in the single variable techniques,

⁸ H. J. Eysenck, Dimensions of Personality. London: Kegan Paul, Trench, Trubner, and Co., Ltd., 1947.

⁹ Ibid., p. 25.

and, though they may use them occasionally, they serve only to add their small part toward the clarification of the extremely complex problem of personality assessment.

If subscription is made to the statement of Eysenck's that "personality is the sum-total of the actual or potential behavior-patterns of the organism . . .," then it would seem that a more fruitful approach to the investigation of personality structure would be the multi-approach of the psychiatrist. Murray et al¹⁰ at Harvard exposed a relatively small number of subjects to numerous and varied tests rather than testing large numbers with one test and then making generalizations. Murray states that:

The reason why the results of so many researches in personality have been misleading or trivial is that experimenters have failed to obtain enough pertinent information about their subjects. Lacking these facts, accurate generalizations are impossible.¹¹

If we have made any contribution to personology, it is probably to be found in our general plan of action: numerous sessions, of which as many as possible were controlled experiments, conducted by different examiners who work independently until at a final session they meet to exchange their findings and interpretations.¹²

In clinical practice in mental hospitals, the procedure of numerous tests and interviews by several doctors,

10 Henry A. Murray, op. cit.

11 Ibid., p. ix.

12 Ibid., p. 705.

followed by conferences where the data is exchanged and correlated, is occurring more and more often. Clinical practice usually follows, and is based upon, experimental data which prove to be valid to the extent of efficacious treatment. The growing current clinical practices mentioned above seem to have developed in institutions that were impatient with or skeptical of much of the data provided by the single variable techniques.

Most authors of questionnaires, projective tests, thematic apperception tests, and similar tests will be among the first to admit the limitations of their measures of personality as a whole. No one of these tests can or will provide an accurate description of the individual's total personality structure.

Nearly all tests of personality may be conveniently categorized according to three major types of tests: subjective, objective, or projective.

Subjective personality tests are characterized by the inventory or questionnaire, interview, autobiography and life history, or case history. They are subjective in the sense that the testee makes statements about himself. Answers to many questions are factual in nature; answers to others often involve self-interpretation or self-evaluation by the testee. In the latter case the information elicited must be carefully weighed by the investigator since it could

easily be full of untruths or half-truths. The Minnesota Multiphasic Personality Inventory,¹³ for example, has a "lie score" which helps considerably in securing valid data.

Probably the type of subjective personality test most used is the inventory or questionnaire. While useful in many cases, often the knowledge gleaned from questionnaire data is superficial and misleading. It may be more significant at times to inquire why the subject gives a particular answer to a question. One must dig deeper than the simple answer to a question before its significance can be accurately assessed and its relationship to the total personality structure determined. A subject who answers "no" to the question, "Are you timid about making new acquaintances?," may show some tendency toward extroversion when actually he may most certainly be introvertive, but either is honestly unaware of it, exhibiting overt symptoms of extroversion, or deliberately indicates a "no" rather than a "yes" even though he may recognize his true feeling in the matter. His evasion of the truth is certainly more significant than the mere answer he indicates.

Ellis,¹⁴ after surveying over two hundred validity

¹³ S. R. Hathaway and J. C. McKinley, Manual for the Minnesota Multiphasic Personality Inventory. New York: The Psychological Corporation, revised edition, 1943.

¹⁴ Albert Ellis, "The Validity of Personality Questionnaires," Psychological Bulletin, Vol. 43, 1946, pp. 385-440.

experiments on personality questionnaires, concluded that their value was questionable in distinguishing between groups of adjusted and maladjusted individuals, and that in individual diagnosis their value was even more questionable in distinguishing between them. He feels that personality questionnaires have proven themselves somewhat valuable in military screening and occupational aptitudes, but that their ability to distinguish between good or bad students or teachers is "woefully inadequate."

There is a continued pernicious tendency on the part of many experimenters to employ personality questionnaires whose validity is still very much in doubt, and, on the basis of scores on these tests, divide their subjects into "neurotic" and "normal," or "introverted" and "extroverted," or some similar dichotomous groupings.¹⁵

In spite of these limitations the well-constructed questionnaire can be one of several useful diagnostic tools for determining what causes the individual to be what he is and act as he does. From a practical viewpoint it is obvious that information must be elicited from the individual to a large extent by means of the normal methods of communication. The psychoanalyst in effect employs the questionnaire method constantly, though the questions and answers are most often verbal. They serve as cues for the next question and thus have the advantage of flexibility, enabling the psychoanalyst to capitalize upon the opportunities of a given clinical

¹⁵ Albert Ellis, "Personality Questionnaires," Review of Educational Research, Vol. 17, 1947, p. 65.

situation. The written questionnaire, on the other hand, has a fixed number of questions which have been more or less carefully selected to reveal particular facets of the personality so that one may compare individuals according to certain psychological traits. If this is the only form of inquiry which is made, only gross interpretations as to the uniqueness of the individual's personality structure can be made. Sometimes this is all that is necessary, but if more precise and detailed information is needed, other tools of psychoanalysis must be employed.

Objective tests of personality are characterized by unobserved observation, miniature life situations, rating scales of physique, and physiological responses. Here the investigator makes the judgments and qualifications of the subject's overt behavior. Certain well-defined areas of human behavior are studied, either through a systematized series of rather discrete stimulus situations, or through the subject's behavior in a given situation wherein he is free to respond to more varied and complex stimuli. Although objective type tests usually demand much less self-judgment or self-interpretation on the part of the testee, such evaluations demand of the testor a high level of insight and skill.

Projective type tests of personality are characterized by word association techniques, play techniques (usually

reserved for children), the Thematic Apperception Test¹⁶, ¹⁷ and the well-known Rorschach Personality Test.¹⁸ Most of these tests require specially trained and highly skilled testers for their administration and interpretation. The personality characteristics of an individual are inferred from his responses to stimuli which often mean little to him. Through his interpretations and associations, the investigator is able to make quite accurate judgments concerning certain personality characteristics. With a reasonable amount of cooperation on the part of the testee it is almost impossible for him to give false information about himself. Projective tests have proved themselves to be especially rewarding in the analysis of personality.

All three of these methods--subjective, objective, and projective--for studying personality are useful, when appropriately employed, in securing valid information concerning the nature of personality. Rosenzweig states that:

The meeting of the three main approaches becomes the more important in view of the interdependence of the

¹⁶ H. A. Murray, op. cit., 405-7, 530-45, 673-80, 723-9.

¹⁷ _____, Thematic Apperception Test Directions, Cambridge, Mass.: Harvard Psychological Clinic, 1942.

¹⁸ E. Klopfer and D. McG. Kelley, The Rorschach Technique, a Manual for a Projective Method of Personality Diagnosis. New York and London: The World Book Co., 1942.

total personality which nearly every student of human nature now regards as a basic postulate. . . . The necessity for the multiple study of the person is apparent whatever theoretical standpoint the investigator may adopt. The personality is so complex with respect both to its facets and to the levels of its operation that to hope for any simple or limited tool which will yield up all there is to know is fatuous.¹⁹

Review of Pertinent Literature

Personality Structure and Aesthetic Appreciation

Although musical values certainly rank importantly among aesthetic values, the majority of recent experiments have dealt with color and form as found in the graphic and plastic arts, and with odors. If the assumption is made that such prime aesthetic determinants as unity, variety, and symmetry must hold good for all the arts, then some generalizations can be made from the experimental data dealing with any one of the arts to any other of the arts.

If the statement that there exists a general factor of aesthetic appreciation is valid, then its validity must be proven not only for a given culture or cultural group, but for all cultures, races, and both sexes. Acceptable validity is established for man, wherever he may be found, when the stimuli that he rates in order of preference are quite simple or primary, e.g., primary colors. Validity

¹⁹ Saul Rosenzweig, "Available Methods for Studying Personality," Journal of Psychology, 1949, Vol. 28, p. 336.

decreases when the stimuli become more complex and cultural factors play a more and more important role in the determination of preferences.

Eysenck²⁰ made a critical and experimental study of color preferences and showed that their rankings tended to correlate positively. He surveyed most if not all of the literature on color preferences and showed that for the six prime colors used by most experimenters, the rankings of 12,175 white subjects correlated with the rankings of 7,378 colored subjects to the extent of .96. Rankings of 7,378 men and 6,247 women correlated to the extent of .95. He concluded that "there appeared to be no racial or sexual differences of any importance in the rankings of these colors." Although preferences of the individual vary greatly and are conditioned to a certain extent by association and personal experience, this influence seems to be, as Eysenck points out, "exerted on the basis of an inherited predisposition" which is universal.²¹ Similar studies of odor preferences

20 H. J. Eysenck, "A Critical and Experimental Study of Color Preferences," American Journal of Psychology, Vol. 54, 1941, pp. 385-97.

21 H. J. Eysenck, Dimensions of Personality, op. cit., . 208.

corroborate this contention.^{22, 23, 24}

Perhaps of greater significance is the strong probability that studies of individual differences support the contention of an aesthetic factor in the personality. Eysenck found that individuals when ranked against average orders of preferences for varied series of stimuli tended to rank consistently at the same relative point in the scale. If an individual ranked as average for one set of aesthetic stimuli, then he would also rank as average for another.

This factor is not dependent to more than a small extent on intelligence, but seems to constitute a more or less separate group-factor of 'aesthetic appreciation' within the cognitive sphere.²⁵

Burt²⁶ attempted to discover the "innate bases" of character which would explain the correlation between certain emotional traits. He made a distinction between aggressive and inhibited types. He found that the various sensory

22 J. B. Beebe-Center, Pleasantness and Unpleasantness. New York: Century, 1933.

23 W. Stephenson, "A New Application of Correlation to Averages," British Journal of Educational Psychology, Vol. 6, 1936, pp. 43-57.

24 M. Davies Eysenck, "An Experimental and Statistical Study of Olfactory Preferences," Journal of Experimental Psychology, Vol. 39, 1944, pp. 246-52.

25 H. J. Eysenck, Dimensions of Personality, op. cit., p. 209.

26 Cyril Burt, "The Factorial Analysis of Emotional Traits," Character and Personality, Vol. 1, pp. 238-254, and Vol. 2, 1939, pp. 285-99.

preferences of each group, such as tastes and odors, correlated as did aesthetical judgments. Unstable extroverts preferred pictures where both subject and treatment were emotional or sensational, the paintings of Rubens and Delacroix, the literature of Byron and Hugo, and the music of Wagner and Liszt. Stable extroverts preferred color to line, but the color had to be true to life, the painting of Raphael and Chardin, the literature of Swift, and the music of Verdi and Moussorgski. Unstable introverts preferred the impressionistic arts, the painting of El Greco and Monet, the literature of Shelley and de Quincy, and the music of Weber and Debussy. Stable introverts showed a strong repugnance for any outward appeal to feelings and a preference for the painting of Van Eyck and Rembrandt, the literature of Keats and Wordsworth, and the music of Bach.

Of considerable interest to the psychologist are the individuals who rank at one extreme or the other of an aesthetic scale of values. Distribution of large numbers of subjects' preferences follows closely that of a standard distribution curve. Leaving aside the large percentage of individuals who conform more or less closely to the average preference, one is confronted with two opposed personality types whose aesthetic preferences are also qualitatively opposed. The individual at one extreme shows preferences for the simple, easily understood, obvious sort of color,

picture, form, odor, or rhythm. He is usually the extrovert. The individual at the opposite extreme shows preferences for complex, recondite, and subtle stimuli. He typifies the introvert.²⁷ Empirical observation tends to verify this contention. The avid lover of classical music appears to be in the main introvertive while the disciple of jazz and hillbilly music is most often the extrovert.

Personality Structure and Musical Preferences

There appears to be little research reported which bears directly on the relationship of personality structure and musical preferences. Investigations in this area usually have dealt with the relationship between musical ability, preference, or achievement and intelligence, socio-economic background, musical training, attitude, or particular personality traits. Daniels²⁸ proposed three questions to 155 university male freshmen which required them to make a choice between popular and classical music. These subjects were also given the Bernreuter Personality Inventory. On the basis of the data obtained Daniels concluded that

27 H. J. Eysenck, "The Experimental Study of the 'Good Gestalt'--A New Approach," Psychological Review, Vol. 49, 1942, pp. 344-63.

28 Neil M. Daniels, "The Relation of Certain Personality Traits to Musical Likes and Dislikes," Master's Thesis. Leland Stanford University, June, 1934.

The slight relationship between musical likes and dislikes and personality traits . . . are these: the group favoring popular music tends to be less neurotic, less self-sufficient, more extroverted and more dominant than the group favoring art music."²⁹

Daniels concludes that there is little relationship between Bernreuter's four personality traits and musical likes and dislikes as measured by the questionnaire. He infers that likes and dislikes for popular music and art music are "factors relatively independent of personality." The questionnaire was so meager and the personality assessment so incomplete that the conclusion and the inference which follows seem unwarranted. Every effort must be made to determine adequately musical preferences and personality structure as a whole before any correlations between the two can confidently be carried out.

Deri³⁰ investigated the relationship between musical taste and personality based upon the assumption that taste in art depends primarily on personality structure. His subjects consisted of two groups of musicians whose tastes in music were opposed. Deri "assumed that the taste of a pure classicist is diagonically [sic] opposed to that of a pure romanticist." If the subject preferred the music of

²⁹ Ibid.

³⁰ Otto Deri, "Musical Taste and Personality," Master's Thesis, Teachers College, Columbia University, New York, May, 1947.

Bach, Haydn, Mozart, or Beethoven he was categorized as a classicist; if he preferred composers after Beethoven he was categorized as a romanticist. Musicians were not included in the study who indicated a preference for a mixture of classical and romantic composers. The Szondi³¹ Test was administered to the subjects and on the basis of the personality profiles obtained, Deri concluded that

Those with classical taste gave a less emotional and more intellectual profile with a more rigid and detached Ego, while subjects of the romantic group showed greater interest in the outside world, less restraint in their emotional life and a more fluid dynamic Ego.³²

Other studies bear indirectly upon the problem of this study, but offer some indications and clues of relationships that appear to exist. Kerr's numerous studies and reports³³ on the use of music in industry indicate that musical preferences may be classified and categorized according to socio-economic level or job type, which in itself is an indication of socio-economic level, intelligence level, and personality type. After determining the musical preferences of four groups of workers from widely separated parts of the

³¹ Susan K. Deri, Introduction to the Szondi Test: Theory and Practice. New York: Grune and Stratton, 1949.

³² O. Deri, op. cit., p. 31.

³³ W. A. Kerr, "Attitudes Toward Types of Industrial Music," Journal of the Acoustical Society of America, Vol. 15, 1943, pp. 125-30.

country and who were engaged in four different types of employment, Kerr concluded that although each group may agree rather generally on musical preferences, attitudes vary considerably from one group to another and that a given type of music may be liked by one audience but actually disliked by another. Group or sectional preferences for gross music types are easily verified by empirical data. The popularity of hillbilly music in rural areas, jazz in urban areas, or sacred music in isolated religious communities is well-known. These, of course, are not the only types of music preferred in each area, but they generally are rated highest in affective value. Similarly, individuals in each of these groups vary widely in personality structure, but yet there is sufficient recurrence of certain personality traits that the individual more often than not can be identified on this basis with the whole group.

When music is rated on an aesthetic or artistic scale, the prime determining factors seem to be those of formal or informal musical experience and to a lesser extent, general intelligence. Keston³⁴ devised a test of musical preferences wherein the subject was to rate in order of preference four excerpts representative of music that was "severely classical,"

³⁴ Morton J. Keston, "An Experimental Evaluation of Two Different Methods of Teaching Music Appreciation," unpublished Doctor's dissertation, University of Minnesota, 1949.

"serious popular classical," "easy popular classical," and "popular." The test was given to eighty-nine students from a large university high school and to smaller groups in a university, and in the local, public secondary school. A "perfect" score resulted when each group of four excerpts (there were thirty such groups) was rated first, second, third, and fourth choice in the order listed above. The correct order had been established by a jury of musical experts who based their judgments of each excerpt on aesthetic criteria. The highest significant correlations were found between the Keston scores and musical training and the scores and intelligence as measured by the Otis Quick Scoring Mental Ability Test, and grade point averages.

Immediately the question may be raised that it would not be too difficult for an intelligent and musically experienced person to identify and place correctly each excerpt on a scale of aesthetic excellence regardless of whether his personal preferences coincided with the "correct" placement or not. Keston realized this, and repeatedly and strongly urged his subjects to rank the excerpts in order of preference only. No mention was made of the true purpose of the test - to determine the musical aesthetic "quotient" of the subject. The subject was relied upon to record his true preferences, allowance being made for such attenuating factors as deliberate dishonesty and those few false answers

which did not represent true preferences, perhaps because a compulsion was felt to rank the music in the order which society considered to be "correct."

The results of Gernet's study³⁵ on musical discrimination as related to age and instructional level corroborate the conclusions of Keston. Gernet selected twenty representative compositions ranging from jazz to severely classical and had them rated in order of merit on an aesthetic scale by sixty-six musical experts. Arranging them in two parallel sets of five compositions each, he then had them rated by 2,548 subjects of varied age and grade levels. Intelligence test information was secured on 1,507 of the subjects and the Kwalwasser-Dykema Test³⁶ in shortened form was given to 1,614 of the subjects. He concluded that

Superior musical taste is a matter of erudition and culture acquired through a favorable environment, intensive training, and extensive experience. Of all the factors correlated with music preference, musical training bears the closest relationship to the qualities measured by the Musical Preference Test.³⁷

The inference may be made here that intelligence would also have correlated highly with musical preference since the

³⁵ Sterling K. Gernet, Musical Discrimination at Various Age and Grade Levels, College Place, Washington: The College Press, 1940.

³⁶ Jacob Kwalwasser and Peter W. Dykema, Manual of Directions for Victor Records Nos. 302, 303, 304, 305, and 306. New York: Carl Fischer, Inc., 1930.

³⁷ Gernet, op. cit.

latter bore the closest relationship to musical training. The level of musical training in turn is certainly dependent to a large extent on general intelligence as well as musical talent.

In a comparison of 275 high school musicians with 281 non-musicians in the same schools, Garder³⁸ found that the musicians were more active in school affairs, held more offices, had a significantly higher grade achievement, participated in more extracurricular activities, were more interested in and won more awards in athletics, and showed significantly higher I.Q.'s. When comparing the musical group against a midwestern, urban high school group, the only significant clinical difference was that the boys in the musical group were significantly more feminine. Garder states that the amateur musician who is uncommitted on a professional musical career is a "normal" person socially and intellectually, and is usually superior in leadership and general achievement.

Some few studies have dealt with an analysis of musical personalities. Such studies are really not studies in the true sense, but are biographical sketches with emphasis on a report of overt behavior symptoms of particular

³⁸ Clarence Garder, "A Study of the Characteristics of the Outstanding High School Musician," Unpublished Doctor's dissertation, The University of Kansas, June, 1953.

musicians, or the synthesized typical musician. Of the former, there have been psychoanalytical biographies of most of the psychologically more interesting musicians, past and present. Since many of these musicians have been long dead their biographers have based their analyses upon data gleaned from the music they composed, old letters, and contemporary accounts of one kind or another. Needless to say, none of these musicians had ever reclined on their biographer's psychoanalytical couch. Mozart, Beethoven, Schubert, Mendelsshon, Chopin, and Tschaikowsky, to mention a few, have been subjected to a post mortem psychoanalytical dissection. Many of the well-known composers, judging from these accounts, seem to have exhibited overt signs of abnormality, if not psychopathic behavior. The inference cannot be made, as Lombroso³⁹ and later Kretschmer⁴⁰ have maintained, that the incidence of psychoses occurs so frequently among men of genius that it must be considered a characteristic trait. There are geniuses whose behavior would disprove this contention. The personality traits which all men of genius do seem to possess in common are a vivid imagination, great intelligence, and marked emotionality,

³⁹ Cesare Lombroso, The Man of Genius. New York: C. Scribner's Sons, 1891, 370 pp.

⁴⁰ E. Kretschmer, The Psychology of Men of Genius. New York: Harcourt, Brace, and Co., Inc., 1931.

in the best sense of the word.

These traits, though perhaps not as marked as in the case of the genius, appear frequently enough in musical individuals who are not geniuses that one may say they are characteristic of musical personalities in general. The Pannenburgs⁴¹ made a study of the personality traits of 423 professional musicians and 494 teen-aged children who were rated as being decidedly musical. In addition they analyzed by means of the psycho-biographical method twenty-one outstanding composers. The data from these three groups correlated highly in their agreement. It was found that these musical personalities were generally above average in physical activity, emotional, interested in things artistic, highly imaginative, and often displayed marked neuroses.

The inference of neuroticism among the artistically gifted is supported by the findings of Wheatley and Sumner⁴² from the investigation of eighty-one women and nineteen men at Howard University. These students were administered the Bernreuter Personality Inventory, Otis Self-Administering Test of Mental Ability, and the Simms Score Card for Socio-Economic Status. Seventy-five of the one hundred students

⁴¹ H. J. and W. A. Pannenburg, "Die Psychologie des Musikers," Zeitschrift für Psychologie, Vol. 73, 1915, pp. 247-52.

⁴² L. A. Wheatley and F. C. Sumner, "Measurement of Neurotic Tendency in Negro Students of Music," Journal of Psychology, Vol. 22, 1946, pp. 247-52.

also were administered the Allport-Vernon Study of Values. In terms of "neurotic" scores these students were essentially normal, but the most neurotic tended to have lower socio-economic status, higher test intelligence and were more aesthetically-minded. D'Heucqueville⁴³ found that though individual differences existed, vagotonics as a whole were "extraordinarily susceptible" to simple and infantile rhythms.

It appears, after a perusal of the literature in this area, that most investigations have been concerned with (1) "musical taste," in the sense of the degree of conformity of an individual to a predetermined, "correct" or accepted scale of values, and the ascertaining of those factors which might account for his tastes, (2) the analysis of musical preferences of non-typical groups which exhibit marked deviations in intellectual ability, socio-economic status, or behavior, and (3) the analysis of musical preferences of groups dichotomized according to a few selected personality traits--usually those of introversion and extroversion. The literature has not yet revealed a study wherein the individual's personality as a whole has been analyzed with a fair degree of thoroughness and interpreted in terms of a detailed analysis of his musical preferences, nor has the

⁴³ Georges D'Heucqueville, "La Musique et les Tendances Perverties," Presse Medicale, no. 50, July 21, 1934.

framework been erected for the comparison of individuals or groups of individuals on the bases of significant personality variables and, for them, salient musical characteristics of the music to which they listen.

The Problem Specifically Stated

The steps which are to be taken in this study are:

1. An analysis of twelve subjects' personalities by means of a battery of psychological tests and interviews, administered and interpreted by competent psychologists. Interpretation will appear in the form of raw scores and a paragraphic summary for each subject.
2. An analysis of each subject's musical preferences by means of a battery of tests and measures to be administered over a period of four months.
3. In anticipation of an extension of this study involving large numbers of subjects, the development of techniques for
 - (a) the administration of tests and measures of musical preference,
 - (b) the analysis of musical compositions and excerpts,
 - (c) the coding of such data in convenient and readily accessible form, and
 - (d) the tabulation and evaluation of the data.
4. The evolvement of musical preference indexes for

each subject and detailed interpretation in the form of paragraphic summaries.

5. The comparison of individuals, including appropriate statistical comparisons, on the bases of

(a) musical preferences,

(b) personality variables,

(c) musical preferences versus personality variables

in an effort to establish significant relationships.

CHAPTER III

DESCRIPTIONS OF TESTS AND MEASURES

The Personality Tests

Rorschach Personality Test¹

This is a well-known projective test which Rorschach and his colleague, Oberholzer² evolved in the early 1920's and upon whose principles and systematic foundations was based its subsequent wide development and usage. A vast amount of literature has been written concerning this test, especially since the establishment of the Rorschach Research Exchange³ (q. v.).

It consists of ten large ink-blot, five of which are in varying shades of gray, two which contain gray with a shade of red, and three which are entirely or almost entirely in color. Each is printed on a card and the subject is asked

1 B. Klopfer and D. McG. Kelley, The Rorschach Technique: A Manual for a Projective Method of Personality Diagnosis. New York: The World Book Co., 1942.

2 H. Rorschach and E. Oberholzer, "The Application of the Interpretation of Form to Psychoanalysis," Journal of Nervous and Mental Diseases, Vol. 40, 1924, pp. 225-248, and 359-379.

3 Rorschach Research Exchange, published by Rorschach Institute, Inc., edited by Bruno Klopfer.

to verbalize regarding what he "sees" in each blot. His responses are recorded by means of an elaborate system of symbols so they may later be interpreted.

The system of interpretation used in this study was the Klopfer⁴ along with some of the indexes of maturity used in the Rappaport⁵ system.

The Rorschach Test was depended upon to provide a picture of the underlying characteristics of the personality. When interpreted in conjunction with the Wechsler-Bellevue Intelligence Test,⁶ the Rorschach was particularly useful in indicating the kind or quality of intelligence. The former test rates people on the comprehension and manipulation of materials that are primarily academic in nature and compares individuals within an age group. The Rorschach helps to evaluate the quality of intelligence in terms of kinds of thinking, i. e., whether the approach of the individual to the problem is conventional or unconventional, stereotyped or original, practical or abstract and theoretical. The Rorschach indicates whether the environment is dealt with

⁴ Klopfer and Kelley, op. cit.

⁵ D. Rappaport, Merton Gill and Roy Schaefer, Diagnostic Psychological Testing. Chicago: The Year Book Publishers, Inc., 1945.

⁶ David Wechsler, The Measurement of Adult Intelligence. Baltimore: The Williams and Wilkins Co., 3rd ed., 1944.

in its most natural, obviously-given way or whether the subject tends to penetrate the environment in the effort to discover hidden principles or basic laws. It also indicates the subject's potential level of intelligence versus his preferred or operative level.

In addition the Rorschach indicates whether the subject is stimulated by objects in the environment, i.e., those stimuli which lie outside the self, or whether he depends primarily upon satisfactions secured within the self. A well-integrated individual should possess a proper balance between these two modes of achieving satisfactions. This is referred to as the "experience balance."

An indication of the subject's "drive strength," i.e., productivity, is also provided by the Rorschach. This includes a knowledge of the rigidity or flexibility with which he adapts his thinking to the terms of a problem.

Kind and amount of control in dealing with the super ego is also rated by the test. It indicates whether the subject arbitrarily accepts social standards and conventions, realizing the penalties society inflicts if they are not accepted as part of the pattern of overt behavior. Often this acceptance is superficial and the individual may feel consciously or subconsciously a rejection of society's standards and conventions. Libidinal drives determine productivity and the sorts of controls exercised by the individual.

Ego control represents the individual's control of his impulses in relationship to his understanding of the motivations of other people as well as himself. When these are well handled he is able to find natural and socially acceptable outlets for his own drives.

Thematic Apperception Test (TAT)^{7,8}

This is another well-known projective test. It consists of three series of 10 pictures each. One series is given to women only, another to men only, and the third to both men and women. The subject is asked to build a story around each picture, most of which show human beings in various attitudes and relationships. His responses are recorded by the examiner, who not only notes the verbatim response itself, but also speed of response, portions of the pictures to which the subject directs his attention, and unusual or inappropriate interpretation of the picture. This test provides a more specific content for the basic personality structure as revealed by the Rorschach. It provides a practical autobiography of the subject's psychological dynamics. The content may or may not (probably not) be a conscious awareness on the part of the subject.

7 H. A. Murray, et al, Explorations in Personality. New York: Oxford University Press, 1938.

8 H. A. Murray, Thematic Apperception Test Directions, Cambridge, Mass.: Harvard Psychological Clinic.

If he is aware of the significance of the content as revealed by the TAT, he probably possesses a keen formal or informal knowledge of human nature.

The TAT indicates emotional maturity as revealed by the subject's relations to other people--family, friends, and strangers, all included--and the status of his value system as defined by the Spranger⁹ system of values--aesthetic, economic, theoretical, political, religious, and social. It also indicates his covert level of aims, goals, and conflicts.

The Murray¹⁰ system of interpretation of the TAT was used in the present study. In this system each story is evaluated and symbolized separately, followed by the evaluation and symbolization of all stories after which the symbolization is translated back into a word description of the subject's "covert life thema."

Wechsler-Bellevue Intelligence Scale¹¹

This scale may be given to individuals ranging in age from 10 to 60 or more. It consists of ten subtests and one other which may be used as an alternative. These subtests are:

9 E. Spranger, Types of Men. Halle: M. Niemeyer, 1928.

10 Murray, op. cit.

11 Wechsler, op. cit.

1. An Information Test
2. A General Comprehension Test
3. A Combined Memory Span Test for Digits
forwards and backwards
4. A Similarities Test
5. An Arithmetical Reasoning Test
6. A Picture Arrangement Test
7. A Picture Completion Test
8. A Block Design Test
9. An Object Assembly Test
10. A Digit Symbol Test

Alternate--A Vocabulary Test

These tests have been combined to form four separate but interrelated Intelligence Scales, as follows:

- I. The main Individual Adult Examination for ages 16 to 60, consisting of the first ten tests listed, but permitting a reduction of the number to as few as seven, depending upon their suitability to the subject.
- II. An Adolescent Scale for ages 10 to 16, consisting of the same tests but separately standardized.
- III. A Performance Scale consisting of five tests (tests 6 to 10 inclusive).
- IV. A Verbal Scale consisting of five or six tests (test 1 to 5 and the Vocabulary as an alternate).

The term "Full Scale" refers to either Scale I or Scale II.

Wechsler conceives of intelligence as being the aggregate or global capacity of a person to act purposefully, to think rationally, and to deal effectively with the environment. Though he realized that non-intellectual factors play an important role in this capacity he argues that if a test reveals enough of what general intelligence is to enable one to predict global capacity with reasonable confidence, it is satisfactory. The various subtests are designed to test a number of different but related facets of intelligence. Verbalization and performance become equally important in contributing toward an individual's intelligence quotient under this system.

Means have been established for the following age groups: 10, 11, 12, 13, 14, 15, 16, 17-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, and 60-69. Wechsler disregards the mental age concept by computing the I.Q. with reference to distribution of scores within the age group. The score of 90 is always one P.E. below the mean score and a score of 110 is always one P.E. above. Within this range of twenty score points will be found 50 per cent of the population. This system has been devised by Wechsler because he wishes to have a numerical score that will always mean the same thing at all age levels.

Depending upon the examiner's clinical experience and sagacity, this test can offer important diagnostic clues regarding the testee's mode of reaction, special abilities or disabilities, and personality. For example, clinical groups diagnosed as suffering from organic brain diseases, psychoses, and psychoneuroses generally score higher on the verbal subtests while adolescent psychopaths and mental defectives score higher on the performance subtests. Much of the information revealed by the Wechsler-Bellevue Intelligence Scale can be validated by the Rorschach Test. These two tests together with the TAT constitute the heart of the battery of tests used to assess personality structure in the present study.

Literal-Indirect-Exciting (LIE) Test¹²

A sentence-test, which had been constructed to serve as a basic tool of investigation in another study¹³ was administered to the subjects of the present study by its originator. The subject's responses to the test are classified as being literal, indirect, and exciting. The first

¹² Margaret M. Riggs, "An Investigation of the Nature and Generality of Three Personality Variables," Harvard University, unpublished Doctor's dissertation, 1949, pp. 11-46.

¹³ Ibid.

letter of each of these three words, LIE, give the test its name and denote three personally determined psychological variables.

It consists of ten sets of 3 words each. The words chosen are ambiguous in content and grammatical form, of one syllable, and are found in every day speech in noun, adverbial, or adjectival form. Each word has at least two meanings and, since the test is given orally, the subject may choose any spelling or meaning he wishes. For example, one set of words follow: "steal, steel"; "watch"; "bear, bare." The words are spelled out where there is only one possible spelling and sounded out or partially spelled where there is more than one spelling possible.

The subject is urged to write as many sentences as he can using all three words in each sentence. He is told that this is not a speed test, but time is called after four minutes, and he is allowed to finish the sentence he may be writing at the time.

A word was scored as "Literal" if its essential characteristic was that of a concrete referent--an object with extent in space or an action with an observable effect, if neither had a symbolic or affective significance.

The essential characteristic of the variable "Indirect" was a diversion of the referential meaning toward some abstract idea, expression of relationship, or other

feature not present in space. Included were proper names, all imitations or representations of reality, all metaphors, symbols, and idioms.

The essential characteristics of words classified as "Exciting" were representations of excitement, especially of sex, aggression, domination, and desire.

Reliability was determined first among those who rated the test. The correlation between raters for Literal was $r = .97$, for Indirect, $r = .76$, for Exciting, $r = .74$. Split-half reliability of the test itself based upon the scores of three different age groups (junior high, college, and adult) was in the .70's for Literal, .80's for Indirect, and ranged from .1 to .78 for Exciting. Test-retest reliability was .63 for Literal, .67 for Indirect, and .55 for Exciting. These coefficients of reliability are as high as those of most personality tests.

Aesthetic Preference Test¹⁴

This is an unpublished test similar to the Aesthetic Appreciation Test developed at the Harvard Psychological Clinic.¹⁵ It consists of twenty-one pictures of assorted styles, media, content and quality. All were reproductions

¹⁴ Ibid., pp. 203-217.

¹⁵ Murray, et al, op. cit., pp. 447-53.

of works by recognized artists. The pictures were laid out in random order and the subject was instructed to pick them up according to rank order of preference. The subject was told that there was no right or wrong rank order and that he was to make his choices simply on the basis of how much he liked or disliked each picture.

After a listing was made of the rank order of preference for the pictures they were divided into two groups; the ten lowest ranked and the eleven highest ranked. The subject was then asked if he could explain what principles were held in common within each group of pictures. His comments were recorded. These comments were grouped into the following classes:

Color: any reference except "color didn't matter."

Form: any reference to line, composition, texture, form, volume, distinctness, distortion, simplicity, outline, grace, balance.

Dynamics: any reference to movement, motion, dynamic, active, lively, static, weak, forceful, violent composition.

Sex: any reference to nudes, naked, perversion, sensual, pornography, morbid ideas.

As used in Riggs' study this test was one of several validating measures for the sentence-test (LIE) since it was shown by her that a certain pattern of preferences when judged according to the criteria of color, form, dynamics,

and sex correlated well with the psychological variables characterized by the words Literal, Indirect, and Exciting. In the present study it also served as a projective measure of personality.

Humor Preference Test¹⁶

As another validating measure for the LIE test Riggs devised a Humor Preference Test. This test was also used in the present study, and consists of a set of thirty-seven cartoons from Judge, Esquire, The New Yorker, and Saturday Evening Post. They were selected to afford a wide range of content and style. None of the jokes were verbal since it was felt that in many cases they were dependent upon the connotations of special words. They were pre-selected from a larger number of cartoons by a trial group of subjects and none were liked by less than one-third or more than two-thirds of the group.

The cartoons were pre-rated according to the following criteria:

Irreality: defined as physical impossibility within nature.

Emotionality: defined as sex, aggression, emotional frenzy.

¹⁶ Riggs, op. cit., pp. 297-26.

Convention

Irony

Slapstick

The subject was asked to group the cartoons into those liked and those disliked. No attempt was made to measure amount of sense of humor, but preference rather than capacity. Riggs found her most significant and most easily interpreted results concerned the kinds of jokes which were rejected by each group. The Literal person rejects irreality, the Indirect rejects jokes with emotional content, and the Exciting rejects jokes concerning convention.

Interview

During and after the administration of the battery of psychological tests which have been briefly described above, each subject was given a series of open-ended interviews. He first submitted a written autobiography which consisted of a chronological review of the most significant events in his life. This was further supplemented in his verbal interviews with the psychological testers.

Factual information was thus obtained concerning age, family, vocational aspirations, hobbies, marital status, education, social and economic status, and health. In addition his attitudes concerning human relationships, social values, aesthetic values, and life goals were directly or

indirectly elicited.

During this period of testing and interview each subject came in contact with each of the three psychological testers at least once and with at least one of them three or four times. The testers were thus able to form general impressions of each subject's personality not only by means of interview and in a test situation, but to lesser but important extent through chance observation of them as they went about the campus in pursuance of their casual and routine activities.

Method of Summarization of Psychological Data

After the mass of raw psychological data had been assembled, summarized, and briefed, it remained for the psychological testers to examine and interpret it. This was done in a series of conferences on each subject. The basic personality structure of each subject was by this time generally self-evident, but the significance of some of the data remained obscure. By pooling ideas, impressions, and interpretations, the testers were able to arrive at a valid conclusion as to the significance of much of the data, thereby delineating the subject's personality in greater detail and with much more clarity.

The psychological data in the form of raw scores of each of the tests described in this chapter appear in

Appendix A. The psychological examiners also evolved a paragraphic summary of each subject. The summaries average about ten double-spaced typewritten pages and have not been included in this study in their original form because it was deemed advisable to keep this information confidential. However, it has been used in such a way that its validity has not been compromised and the subject has been forestalled from identifying himself should he peruse this study.

The Musical Preference Tests and Measures

Unfortunately there are no tests of musical preference which are as sophisticated or well-known as the Rorschach Test, Thematic Apperception Test, or the Wechsler-Bellevue Intelligence Scale. Most of the measures of musical preference were specially constructed for this study. Five different approaches to the collection of musical preference data were made. Here, as in the collection of psychological data, it was felt that a series of measures, each of which attacked the problem from a different but related angle, was preferable to the use of a single spot test. Two of the measures are spot tests. The other three measures consist of a musical autobiography, a listing by the subject of his most preferred music, and a daily log kept by the subject of the music to which he listened over

a four month period. Thus for any one subject it was possible to secure a large amount of data concerning his musical preferences.

Keston Test of Musical Preference¹⁷

This test was the only measure of musical preference not especially constructed for this study. (Cf. pp. 48-50) Keston used this test as the basis of an experimental study in which he sought to measure the effect of an interesting and informative presentation of classical recordings to a high school general music class. He demonstrated that according to the scores made on this test, students in such a class improved significantly in their preference for classical music over the control group who listened to the same music, but with little or no comment from the teacher.

Construction and Administration. The Keston test consists of one hundred twenty recorded short musical excerpts (thirty to sixty seconds in length) selected equally from four musical categories: severely classical, popular classical, semi-classical, and popular. A group of four excerpts--one representative each of the four musical categories--comprises one test item. Thus there are thirty

¹⁷ Morton J. Keston, "An Experimental Evaluation of Two Different Methods of Teaching Music Appreciation," unpublished Doctor's dissertation, University of Minnesota, 1949.

test items. The testee must rank each group of four excerpts in the order in which they are preferred by him.

A "perfect" score would be obtained if the testee were to indicate consistently the severely classical excerpt as his first preference, the popular classical excerpt as his second preference, the semi-classical excerpt as his third preference, and the popular excerpt as his fourth or last preference. The excerpts comprising each test item are presented in random order. (See Appendix B for a list of excerpts and score sheet.)

Scoring. A system of weightings was used so that not only would the testee receive full credit for placing the selections heard in the "proper" ranking, but also he would receive some credit for an approximately "correct" ranking and would be penalized according to the degree of departure from the "correct" ranking. The technique of weightings followed that of Bliss, Anderson, and Marland.¹⁸

Four values were taken from the Fischer-Yates table¹⁹ such that their mean was zero and their standard deviation

¹⁸ C. I. Bliss, E. O. Anderson, and R. F. Marland, "A Technique for Testing Consumer Preferences," Storrs Agricultural Station, Bulletin 251, University of Connecticut, 1943, p. 7.

¹⁹ R. A. Fischer and F. Yates, Statistical Tables for Biological, Agricultural and Medical Research, New York: Haffner Publishing Co., 1948, Table XX, p. 66.

was one. A rank of "1" was therefore assigned the value of 1.03; the rank of "2", .30; of "3", -.30; of "4", -1.03. The lower the score the more discriminating the testee is with regard to his musical preferences. Following is a table of scores which are dependent upon how much a given musical excerpt (severely classical, popular classical, semi-classical, and popular) is preferred (1st, 2nd, 3rd, or 4th preference):

<u>Excerpt</u>	<u>Preference</u>	<u>Score</u>
Severely classical	1st	0.00
"	2nd	0.73
"	3rd	1.33
"	4th	2.06
Popular classical	1st	0.73
"	2nd	0.00
"	3rd	0.60
"	4th	1.33
Semi-classical	1st	1.33
"	2nd	0.60
"	3rd	0.00
"	4th	0.73
Popular	1st	2.06
"	2nd	1.33
"	3rd	0.73
"	4th	0.00

The "best" score (where a good score is signified by a keen appreciation for severely classical music and a dislike of popular music) would be achieved if the testee were to indicate his 1st, 2nd, 3rd, and 4th preferences always in the order in which the excerpts are listed above for each of the thirty items. This would result in a score of 0.00. A "worst" score would be achieved if preferences

were always indicated in the reverse order to that listed above. This would result in a score of 159.6.

Validity. Scores made by adult musical experts, groups of students, and individual students who rate high musically were significantly better than their counterparts. No coefficient of validity is given.

Reliability. Reliability followed the Jackson and Ferguson formula²⁰ and was based on test-retest data taken from the standpoint of the incidence of circular triads, and is as follows:

Between grades	.999
Within grades	.945
Total for all grades	.950

Daily Log

Perhaps the most valid measure of a subject's musical preferences was secured through a daily log which was kept by him since it was a record of that music to which he voluntarily and casually listened, and was not a prepared array of compositions for which he would have been forced to indicate degrees of preference. He was asked not to deviate from his normal listening habits except to record

²⁰ Robert W. B. Jackson and George A. Ferguson, Studies on the Reliabilities of Tests. Toronto: Department of Educational Research, University of Toronto, 1941.

on a specially prepared form his reaction to the music. The log was kept over a four-month period.

The subject was given a pad of forms, approximately 5"X 7" in size, on which he could indicate his reaction to a given composition by merely checking a series of numbers. These numbers were spaced along a vertical scale, the opposite extremes of which were labeled "reaction of extreme pleasure" and "reaction of extreme displeasure." The center of the scale was marked with a zero and indicated neither "pleasure" nor "displeasure," but "indifference." Above the mid-point and extending toward the "pleasure" end of the scale were the numbers "+1" through "+5," "+5" being the highest number which could be checked and which represented the "reaction of extreme pleasure." The lower end of the scale was similarly marked with a "-5" which represented the "reaction of extreme displeasure." The subject was asked to place his check mark opposite a number, not somewhere in the space between two adjacent numbers.

This form also provided space where the subject could identify himself by means of his pseudonym, and where he could indicate the name of the composition, its composer, its arranger, if any, the name or names of the performer(s), whether "live" or recorded, and whether heard at a "live" concert, by radio, juke box, or other means of reception. This information was needed not only

to identify the listener, but to identify the composition to which he listened so that it could later be played (if recorded) and analysed by the investigator. Needless to say, some of the compositions could not be analysed because of lack of sufficient identifying information or because the music was performed "live" and therefore not available on recordings.

A final bit of information was requested of each subject. He was asked to indicate with a word or short phrase what it was about the music that he particularly liked (if he checked positive reaction) or disliked (if a negative reaction). In some cases this was impossible or very difficult for the subject to do, as it could be for even the sophisticated musician. Some of the responses were quite definite about what was liked or disliked while other responses were too vague or general to be of much value in analysis.

The time spent in checking and filling out each form averaged about thirty seconds. One form was made out for each composition. When the subject had collected ten or a dozen he placed them in an envelope and mailed them to the investigator.

There are, of course, many factors which can influence how much time a person will spend listening to music just as there are for the sorts of choices he will

make. The pressures involved in seeking an academic degree probably allow for less time to voluntarily listen to music than if a person has his training past him and is comfortably engaged in his business or profession. The information gathered by means of the Daily Log does seem to indicate, however, the relative degree of valence which music has for each subject when compared with other subjects. Some subjects turned in comparatively few Daily Log forms while others had apparently spent many hours in listening to music.

Forty-eight Musical Excerpts Test

A third test, especially devised for this study, presented a wide and varied array of short musical excerpts, each homogeneous in musical style and content, which the subject rated on an affective scale ranging from extreme like to extreme dislike. The rating form used was the same as that used for the Daily Log (cf. preceding section), and the subject was asked to check all excerpts familiar to him even though he might not be able to identify the composition by name.

This test approached the problem of eliciting musical preferences from a somewhat different angle than the Keston test, which was a forced choice of four musical excerpts, each representative of a predetermined "aesthetic type,"

and the Daily Log, wherein the majority of compositions tended to fall, as one might expect within a single "aesthetic type" category. Dominant as the "aesthetic type" may be in determining musical preferences, it was felt that other factors within the music itself and in most cases common to all types of music certainly must contribute toward the response of a subject and his subsequent rating of a composition on an affective scale. With this in mind the musical excerpts in this test were chosen so that any one musical factor would be represented in all categories of aesthetic types (arbitrarily following the Keston categories of aesthetic type). Thus every type was represented by a slow piece, a fast piece, male solo voice, female solo voice, soft music, fast music, etc.

Of course, the musical factor of tempo, for example, can exist only within a complex musical stimulus wherein other musical factors are certainly present and may frequently be as much or more significant than the factor of tempo in forming the subject's response. However, the assumption is made that if aesthetic type is the prime determinant of a subject's rating of a musical composition then he will rate that type which he likes significantly higher than other types regardless of such factors as tempo, dynamic level, tone color, etc. If, on the other hand, he significantly prefers fast tempi, he will probably rate

all fast pieces higher on the affective scale than slow pieces regardless of aesthetic type.

The test contained twelve popular music excerpts, nine semi-classical, ten popular classical, and seventeen severely classical. The last category of excerpts was largely unfamiliar to the subjects. The duration of each excerpt was between 30 and 75 seconds, 45 seconds being an approximate average. The excerpts as they were played were heard at the beginning of a phrase and were ended with a fast fade-off at the end of a phrase. By grouping "severely classical" and "popular classical" into a single category simply labeled "classical," this category contained twenty-seven excerpts. Similarly "semi-classical" and "popular" contained twenty-one excerpts.

The excerpts were selected so that there was at least one example in each of the popular and classical categories described above of the following factors:

fast tempo	slow tempo
generally staccato	generally legato
loud dynamic level	soft dynamic level
sudden changes in	no changes in
dynamics	dynamics
high pitch range	low pitch range
dissonance	consonance
stimulative	sedative
strongly rhythmic	weakly rhythmic
male solo voice	female solo voice
male vocal ensemble	female vocal ensemble

In addition music was selected for each of the two categories wherein the following tone colors were strongly predominant:

piano
organ
strings
woodwinds
brass
percussion
guitar

(For a complete listing of the musical excerpts in the Forty-eight Excerpts Test, see Appendix C).

It is obvious that no one of these factors can possibly exist by itself. Tone color, intensity, pitch, duration, and at least a minimal sequence of notes are present in even the most simple musical expression; furthermore, though a more comprehensive and exhaustive series of musical excerpts would be desirable in such a test, one which would include all possible combinations of the above factors for each of the type categories of classical and popular, it would have to contain literally thousands of excerpts. From the standpoint of administration alone of such a test, not to mention the gargantuan task of constructing it, it seemed best to prepare a test which was widely varied in content and yet one which could be given within a reasonable time period.

Five Preferred Recordings

Since music of any kind or description is available enough that a person can satisfy his least whim with very little effort, the thought probably never occurs to him

that if he were suddenly limited in his choice to a few compositions just what his choices would be. The choices a person does make can be quite revealing concerning not only the type of music he prefers, but also his musical sophistication, and to a certain extent an interesting facet of his personality.

Each subject was asked the following question which appeared in a questionnaire on his musical background and training (see following section):

Suppose that by some peculiar chain of circumstances you were somewhere for several years where you were completely shut off from hearing any music other than that provided by your own voice, but that you could take with you a phonograph and five musical recordings. What five recordings would you choose? List them in the order of your preference. Please list specific titles, composers, and performers whenever possible. It should be possible to locate your choices in record catalogues, either old or new. Consider each choice as if it were the only one. Do not let previous or subsequent choices influence the choice of that particular one. Remember, this is the only music you will hear for several years. Do not list whole operas, oratorios, or even symphonies, (if some of these be your choice) but try to narrow it down to a specific section or part of these large works.

One may safely assume that from the vast array of musical compositions those which each subject chose certainly rate well toward the top of the affective scale of his responses to music. The limitation imposed by the investigator regarding the fact that the music had to be recorded was necessary in order for the music to be played later for purposes of analysis.

It is understood that musical preferences are to a

greater or lesser degree transitory for any one person. None-the-less, though the titles of the composition may change, certain musical factors or combinations of factors will remain relatively constant.

Questionnaire on Musical Background and Training

Each subject was asked to fill out a questionnaire on his musical background and training as an aid toward the subsequent interpretation of musical preference data. (The complete questionnaire appears in Appendix D). It was divided into four sections: formal training in music, family musical history, musical attitudes (in which the question on the Five Preferred Recordings was posed, cf. previous section), and a listing of his record library.

The questions on the subject's formal training in music inquired into his study of voice or an instrument and participation in school musical groups.

The questions on the family's musical history included a listing of those members of the family who played or sang, the attitudes of the parents toward music and the subject's participation in music, and whether piano, radio, and phonograph were available in the home.

The questions on musical attitudes concerned the subject. He was asked to list his favorite performers, aesthetic type of music, the aforementioned Five Preferred

Recordings, and a brief account of any of his musical experiences of any sort which were emotionally charged and vivid memories.

In the last section he was asked to make a listing of recordings which were in his library and which he had chosen himself or, if selected by someone else, those he would have chosen, and to indicate his favorites.

CHAPTER IV

EXTRACTION AND TABULATION OF MUSICAL PREFERENCE DATA

Any unique contribution this study may make toward a better understanding of the relationships between personality and musical preference will perhaps be the technique developed to analyze musical recordings and to record such data in terms of the preferences of each subject. Since it was anticipated that a large mass of data would be secured, even though only twelve subjects were used, it became mandatory to evolve a system whereby it could be quickly tabulated and summarized. As far as can be determined the system is unique, and, though fruitful in the present study, can and will be refined for easier administration and to make possible more valid interpretation in subsequent studies involving large numbers of subjects.

Collection of Recordings Preparatory to Analysis

In order to make a musical analysis of every musical composition to which each subject listened, it was essential that the music be recorded in such a form that it would be available to the investigator. Recordings were on hand for the Keston Musical Preference Test and the

Forty-Eight Excerpts Test. The subject was asked, it will be remembered, that he list only available recordings when indicating his Five Preferred Recordings.

The Daily Log, however, presented a problem wherein a portion of the music to which each subject listened was heard in a "live" performance, either in the presence of the performer or by means of radio broadcast, "live" or taped, and occasionally motion pictures. This music obviously could not be secured and therefore could not be analyzed in the detail which the recordings were analyzed. They could be classified according to aesthetic type. If these performances were standard performances of standard works in classical or even semi-classical musical literature, it was possible to substitute a closely comparable recording for the "live" performance. Infrequently the investigator would recognize and remember in sufficient detail a "live" performance to which a subject had also listened and reported, that he could make a fairly detailed analysis of it.

A listing of every piece which was reported on the specially prepared Daily Log forms (cf. Daily Log description, Chap. III, pp. 75-78) was made and checked against all available record catalogues and lists of recorded music in an effort to secure complete information regarding the record maker, record number, and recording artists.

Whenever the subject reported a piece he had heard on a disk jockey program the information was usually complete enough that one could be sure that it was recorded and should be available. At times the information supplied by the subject about a composition was so sketchy that only the title and performing artist was given. In such cases it was assumed to be recorded and available until proved otherwise.

As was indicated above, some substitutions were made whenever the substituted recording closely duplicated the original performance as heard by the subject. For example, a Boston Pops recording of Ravel's "Bolero" was considered a valid substitute for a "live" broadcast of this work by the Philadelphia Symphony. Similarly a recording of Lily Pons singing "The Bell Song" from Lakme accompanied by a Victor studio orchestra was considered a permissible substitute for the same song sung by the same artist but in a "live" broadcast accompanied by the Bell Telephone Orchestra. On the other hand, to substitute Patrice Munsel's voice for Lily Pons' would not be valid because of the difference in vocal timbre and the sensitivity of most listeners to vocal quality.

Substitutions were rarely made of popular music performances since one group of performers varies considerably from another in the matter of style and sound, and in

almost every case uses a different arrangement of a given popular composition. This was also somewhat true of semi-classical music.

After a listing had been made of all the compositions which were known to have been recorded, as well as those which could not be found in recording lists but about which it was still surmised there might be a small chance they had been recorded, the area was searched to find them. Approximately half of the recordings were relatively easy to secure, particularly if they were recent and popular. It became more and more difficult to find recordings as the list dwindled. Through the courtesy of two music stores, five radio stations, two large institutional record libraries, several smaller ones, and numerous private collectors, it was possible to secure all but a few of the recordings on the list. Fortunately these good people were willing to loan the records for a few days or hours so that they could be analysed, thus making unnecessary a large and undesired expenditure of money.

Recordings of standard classical works were far easier to secure than were many of the popular recordings. The recordings were collected a few at a time and analysed before an effort was made to secure more, since it was not desired to keep them on loan any longer than was necessary.

No attempt was made to make detailed analyses of any large works which were reported by the subject in his Daily Log. He was urged to select particular movements of symphonies, or portions of operas, oratorios, and other large and elaborate works which he especially liked or disliked. Whenever he did list a large work, such as Bizet's "Carmen" it was impractical if not impossible to analyze such a work in detail. This did not mean that the response was useless, for it did contribute something toward an understanding of his musical preferences.

Criteria for the Judgment of Musical Content

Before any conclusions can be drawn regarding a person's musical preferences it is necessary to know something about the music to which he listens. Most often when such conclusions are drawn they are based upon only a superficial knowledge of the music such as, for example, a knowledge of its aesthetic type or perhaps a few details with regard to preferred tone colors. But if one is to have an intimate awareness of someone else's musical likes and dislikes, he must delve much more deeply into the matter. This is particularly true when, as in this study, an attempt is being made to seek out consistent patterns of preferences other than mere aesthetic types of music. The challenge here is to answer the question: "In all the

music to which a person responds, what are the musical factors or combinations of factors which appear often enough to be significant and typical of his musical preferences?"

These factors are the criteria by which all the music was judged, except for those compositions listed in the Daily Logs which were unobtainable or otherwise could not be analyzed. An effort was made to avoid selecting rankly subjective criteria based upon intuitive or metaphysical systems, but rather to select criteria which were at least fairly objective, though admittedly a few border on the subjective or are at least open to some controversy. Judgments were made concerning tempo, dynamics, staccato-legato, sedation-stimulation, pitch range, sonance, rhythm, harmonic structure, formal structure, tone color, aesthetic type, and performance medium. At least four judgments were made of each of these musical factors except aesthetic type and performance medium. Altogether, forty-two judgments were made concerning every musical composition. Analysis was made of 168 excerpts and 173 full length compositions ranging in length from three to fifteen minutes.

A master sheet was prepared upon which the analyses were noted. It consisted of an $8\frac{1}{2}$ " by 11" card printed on both sides (see Appendix E). On the first side was noted the title, composer, arranger, performer(s), medium of

performance (type of solo and/or ensemble), rpm, recording company, record number, and, when necessary, record library number. Each master sheet was itself identified by a file number. The remainder of the first page consisted of a graph upon which could be plotted tempo, tone color, staccato-legato, dynamics, pitch range, sonance, and mode against a time base. Changes in form and style, modulations, and prominence of rhythmical pulse could also be noted. A one-quarter inch space corresponded to a ten second passage of time. A total of five minutes of music could be analyzed and recorded on each master sheet. The maximum length of a 12-inch, 78 rpm recording was just under five minutes. If the composition ran over upon another or several records a new card was used for each record surface. In the case of a long-playing 33 rpm recording which extended past the five-minute limit, the recording was analyzed down to a convenient break or cadence in the music near the five-minute mark and then was stopped and started again after a new master sheet had been placed in readiness. Only sixteen of the 173 full length compositions extended beyond the five-minute mark. The 168 excerpts, as was previously noted, were of thirty to ninety seconds' duration.

The second side of the master sheet contained a listing of all the musical factors mentioned above,

including subdivisions of each musical factor, and spaces where check marks could be made thereby noting a judgment made about the music. Following is a reproduction of each of these sections and a detailed description of the musical factor involved and the mechanics of representing it on the master sheet. The instructions which appeared at the top of the second side of the master sheet are reproduced first:

Check only one of the several spaces below each subdivision labeled with a capital letter. If none are judged to be applicable, all must be left blank, signifying that the composition is unclassifiable by these criteria. Judgments must be made on the composition as a whole, disregarding insignificant or isolated deviations.

Tempo often is one of the most affecting factors in music. In most cases the speed of the takt or beat can be easily measured by means of a stop watch or a metronome. Nearly every popular piece has an unvarying tempo throughout, while much of classical literature is replete with changes in tempi. At times the musical score may be quite full of notes of short duration, giving the psychological impression of a fast tempo, when in reality the takt may be relatively slow. An example would be where there are thirty-second note variations of an adagio theme in a Beethoven piano sonata, or eight rapid notes to a moderately fast beat in a "cut-time" popular piece where two, three, or four notes to a beat is usually the case.

Whenever this situation arose the composition was considered as a whole, and, if the takt was moderato, but the psychological impression was still one of great speed, the tempo was reckoned to be twice that of the given metric beat. Thus in the case of the popular piece with eight notes to a beat which corresponded to a half note in "cut-time" or alla breve meter, the quarter note determined the tempo which was traced on the graph. This procedure was validated by a group of non-musicians who were asked to indicate whether a group of representative pieces were "fast," "moderately slow," or "slow" merely from their sound. In every case such compositions as are described above were rated as being fast.

The tempo trace was a continuous trace made on the graph with time marked off in ten-second intervals along the ordinates. The abscissas were marked at even intervals with numbers representing beats per minute, extending from forty to two hundred forty beats per minute. The opposite extremes of tempo, indicated by the musical terms lento for very slow tempi and presto for very fast tempi, are certainly represented within this number range.

After the tempo trace was completed and while the music was still fresh in the memory of the investigator, several judgments were made concerning tempo and were recorded on the following form:

TEMPO

A. Predominant or characteristic tempo:

Lento-Andante	1	___
Moderato	2	___
Allegro-Presto	3	___

B. Frequency of change in tempi:

Steady tempo	1	___
Infrequent change	2	___
Frequent change	3	___

C. Speed of change in tempi:

Gradual change	1	___
Sudden change	2	___
Both gradual and sudden	3	___

D. Amplitude of change in tempi:

Small change	1	___
Large change	2	___
Both small and large	3	___

The first judgment was made concerning the predominant or overall characteristic tempo. If the psychological effect was of a slow tempo, number one under "A" above was checked; if neither fast nor slow, no checks were made signifying that the composition was too variable to be classifiable.

The second judgment concerned frequency of change in tempi. The tempo was judged to be steady, subjected to frequent change, or infrequent change. Again, if none of these criteria fitted the composition it was assumed to be unclassifiable and no checks were made. If changes in tempi did occur a third judgment was made concerning their speed of change--whether these changes were primarily gradual, sudden, or both gradual and sudden.

Similarly, the fourth and last judgment was made concerning the amplitude of changes in tempi — whether small, large, or both small and large.

The last three criteria also were used in making judgments of dynamics, pitch range, sonance, and sedation-stimulation and need not be described further in the subsequent discussion of these musical factors.

Tone color was described primarily in terms of the instruments or voices, or combinations thereof. A listing was made of those voices and instruments which one may readily expect to encounter wherever he may turn for his listening. The same tracing on the graph which represented tempo was also used to indicate the predominant tone color at any given moment. This was done through the use of colored pencils. A blue trace represented string tone; green, woodwind; red, brass; yellow, the female voice; brown, the male voice. Black was reserved for the sound produced by a large instrumental ensemble where there was a mixture of string, brass, and woodwind, and where these colors were equally prominent or nearly so. Occasionally it was necessary to mark a double or even triple trace if two or three clearly distinguishable tone colors were present in equal or nearly equal prominence as, for example, a tenor solo with a string accompaniment.

After a trace was completed for tone color it was judged according to the following criteria:

TONE COLOR

Piano	1
Plucked string	2
Bowed string	3
Brass	4
Woodwind	5
Female solo voice	6
Male solo voice	7
Female vocal ensemble	8
Male vocal ensemble	9
Mixed choral ensemble	10
Organ	11
Accordion	12
Guitar	13
Percussion	14

Any tone color on the above list which was judged to play a solo role or appeared frequently, prominently, and long enough that it assumed the role of a solo was assigned a weight of "3." If it was not prominent enough to be a solo but still was prominent enough that it could be easily distinguished from the rest of the tone colors that may have been present, it was assigned a weight of "2." If it was definitely in the background and either hardly distinguishable or absent for long periods of time, or if it appeared only briefly though perhaps prominently, it was assigned a weight of "1." These weightings will be discussed later in the chapter. There were no compositions which could not be judged according to the above criteria.

Staccato-legato was also indicated by means of the same trace used to mark tempo and tone color. A dotted trace signified extreme staccato; short dashes, staccato; long dashes, legato; and an unbroken trace, extreme legato. In many instances it was necessary to mark two traces as, for example, when a legato melody was heard over a staccato background. These traces were made with the appropriate color for the tone colors present and, as might be expected, often in two different colors since a staccato accompaniment would frequently serve as a contrasting foil in color and rhythm for a legato melody. The entire trace was then examined and a judgment made and recorded on the following form:

STACCATO-LEGATO

A. Prime melody:

Extremely staccato	1	_____
Staccato	2	_____
Legato	3	_____
Extremely legato	4	_____
Too variable to classify	5	_____

B. Accompaniment or background:

Extremely staccato	1	_____
Staccato	2	_____
Legato	3	_____
Extremely legato	4	_____
Too variable to classify	5	_____

C. Total effect:

Extremely staccato	1	_____
Staccato	2	_____
Legato	3	_____
Extremely legato	4	_____
Too variable to classify	5	_____

Dynamic changes in loudness were recorded on a separate portion of the graph. In this case the abscissas marked off five evenly spaced intervals each one of which was headed by the following dynamic markings in the order given: pp, p, mf, f, and ff. A continuous trace was made on the graph which provided an over-all picture of the fluctuations in loudness level of the composition. Sudden and brief changes in loudness, as, for example, a ff staccato chord, cymbal or timpani crash, were represented by spikes, perpendicular to the main trace. A composition full of this sort of thing, such as the storm scene from Beethoven's "Pastoral" Symphony, provided a very angular trace with many of these sharp spikes. On the other hand, a smooth legato composition such as the Berceuse from Stravinsky's "Fire Bird" Suite provided a trace with rather smooth and rounded convolutions.

Immediately after this trace was completed, certain judgments were made concerning the dynamic level and were recorded on the following form. Items B, C, and D have already been discussed under tempo. (Cf. pp. 94-95.)

DYNAMICS

A. Predominant or characteristic dynamic level:

pp - p	1
mp - mf	2
f - ff	3

- B. Frequency of change in dynamic level:
- | | | |
|-------------------|---|-----|
| Steady level | 1 | --- |
| Infrequent change | 2 | --- |
| Frequent change | 3 | --- |
- C. Speed of change in dynamic level:
- | | | |
|-------------------------|---|-----|
| Gradual change | 1 | --- |
| Sudden change | 2 | --- |
| Both gradual and sudden | 3 | --- |
- D. Amplitude of change in dynamic level:
- | | | |
|----------------------|---|-----|
| Small change | 1 | --- |
| Large change | 2 | --- |
| Both small and large | 3 | --- |

Pitch range was also represented by a continuous trace on a separate portion of the graph. In this case both the lower and upper limits of sound were traced and then the area between them shaded in with pencil. Five evenly spaced columns were headed with the following labels in the order given: very low, low, middle, high, very high. Very low pitch range was arbitrarily determined to be those sounds below G₁; low, between G₁ and G₂; middle, between G₂ and c'₁; high, between c'₁ and c''₁; very high, above c''₁.

Here again the psychological impression of pitch range occasionally over-shadowed the actual pitch range. For example, if an unusually sonorous and prominent mass of sound issued from the bass instruments in the orchestra accompanied by a high but light background, more often than not one was hardly aware of the latter and judged the pitch range to be low and/or very low. Most often,

however, the outer limits of the actual pitch range could be followed with ease, though the lower limit usually was somewhat more difficult to follow than the upper.

Several judgments of pitch range were made and recorded on the following form. (Cf. pp. 94-95 for a discussion of items B, C, and D).

PITCH RANGE

A. Predominant or characteristic pitch range:

Very low - low	1	_____
Middle	2	_____
High - very high	3	_____
Wide range	4	_____

B. Frequency of change in pitch range:

Constant range	1	_____
Infrequent change	2	_____
Frequent change	3	_____

C. Speed of change in pitch range:

Gradual change	1	_____
Sudden change	2	_____
Both gradual and sudden	3	_____

D. Amplitude of change in pitch range:

Small change	1	_____
Large change	2	_____
Both small and large	3	_____

Sonance proved a difficult musical factor to graph since judgment of how dissonant or consonant music may be seems to be dependent upon individual musical tastes and to a great extent, musical sophistication. Something which may sound quite dissonant to one person may very well sound quite consonant to another.

There is the usual implication in any discussion

of sonance that consonance is pleasant and dissonance unpleasant. This is certainly not always the case. Pleasure may be experienced from music which is judged to be dissonant primarily because of that very dissonance. Also, the psychological attribute of dissonance is mitigated or sharpened by the musical context of which it is a part.

In the present study an attempt was made to take the viewpoint of the average musical layman. What would sound dissonant to this mythical average man is music wherein there are many and prominent intervals of major sevenths and minor seconds and ninths. It is true that popular music often contains many of these intervals, but most often they are so deftly voiced that the over-all effect is still one of consonant harmony. Some popular music and atonal music account for the large bulk of what may be called dissonant music.

Another factor which may produce dissonances other than the intervallic relationship of tones is that of extremely loud, rough, and percussive passages.

A separate portion of the graph was used to trace sonance. Five evenly divided spaces were headed with the following labels in the order given: very consonant, consonant, mildly dissonant, dissonant, very dissonant. The over-all judgments made of this musical factor of sonance

were recorded on the following form. Again, consult pp. 94-95 for a discussion of items B, C, and D.

SONANCE

- A. Predominant or characteristic sonance:
- | | | |
|----------------------------|---|-----|
| Very consonant - consonant | 1 | ___ |
| Mildly dissonant | 2 | ___ |
| Dissonant - very dissonant | 3 | ___ |
- B. Frequency of change in sonance:
- | | | |
|-------------------|---|-----|
| No change | 1 | ___ |
| Infrequent change | 2 | ___ |
| Frequent change | 3 | ___ |
- C. Speed of change in sonance:
- | | | |
|-------------------------|---|-----|
| Gradual change | 1 | ___ |
| Sudden change | 2 | ___ |
| Both gradual and sudden | 3 | ___ |
- D. Amplitude of change in sonance:
- | | | |
|----------------------|---|-----|
| Small change | 1 | ___ |
| Large change | 2 | ___ |
| Both small and large | 3 | ___ |

Mode was the last musical factor to be traced on the graph. A red pencil was used to indicate major mode, blue for minor mode, and black when there was a rapid alternation in mode or when the modality was not judged to be either predominantly major or minor or was alternately major-minor. This judgment was recorded under the musical factor of harmonic structure which will be discussed later in this chapter. If the composition was unclassifiable as to mode the spaces were left blank.

Sedation-Stimulation is another psychological attribute of musical sound which poses many of the same

problems of judgment which exist for sonance. However, the assumption was made here that music which is fast, staccato, strongly dynamic, and has a pronounced rhythmical pulse is, for most people, stimulative music. Conversely, music which is slow, legato, soft, or at least lacking in sudden and forceful dynamics, and in which the rhythmical pulse is not very apparent, will most often be rated as sedative music. These were the criteria by which judgments were made concerning sedation-stimulation. In addition to the previously discussed items B, C, and D which appear in the form below, item E indicates one other judgment which was made — whether the composition incited a more or less steady and increasing stimulation with the climax appearing at or near the end of the work, or whether the composition incited the opposite reaction wherein there was a gradual lessening of tension and a steady increase of sedative qualities in the music. The form on which these judgments were recorded follows:

SEDATION-STIMULATION

A. Over-all degree of sedation-stimulation:

Sedative	1	___
Mildly stimulative	2	___
Stimulative	3	___

B. Frequency of change in sedation-stimulation:

No change	1	___
Infrequent change	2	___
Frequent change	3	___

- C. Speed of change in sedation-stimulation:
- | | |
|-------------------------|---|
| Gradual change | 1 |
| Sudden change | 2 |
| Both gradual and sudden | 3 |
- D. Amplitude of change in sedation-stimulation:
- | | |
|----------------------|---|
| Small change | 1 |
| Large change | 2 |
| Both small and large | 3 |
- E. Changes of polarity in sedation-stimulation:
- | | |
|-----------------------------------|---|
| Constantly increasing stimulation | 1 |
| Constantly decreasing stimulation | 2 |

Rhythm is one of the most important and affective factors in music. Rather than attempt to analyze and classify the rhythm of every composition in terms of meter and note values, it was judged in terms of its prominence of pulse, the variability of this prominence, variability of pattern, and its complexity.

The rhythmical pulse was first judged as being hardly apparent, apparent though not pronounced, pronounced, or extremely pronounced. A second judgment was made concerning the variability of the prominence of the pulse--whether consistently prominent, or small or large changes in prominence. A third judgment concerned the variability of the rhythmic pattern -- whether constant or of few or many changes. The fourth and last judgment concerned the complexity of rhythm and meter -- whether simple, moderately complex, complex, or variable between simple and complex. These judgments were recorded on the form below:

RHYTHM

- A. Prominence of rhythmical pulse:
- | | |
|---------------------------|---|
| Hardly apparent | 1 |
| Apparent - not pronounced | 2 |
| Pronounced | 3 |
| Extremely pronounced | 4 |
- B. Variability of the prominence of the rhythmical pulse:
- | | |
|------------------------|---|
| Consistently prominent | 1 |
| Small changes | 2 |
| Large changes | 3 |
- C. Variability of rhythm pattern:
- | | |
|------------------|---|
| Constant pattern | 1 |
| Few changes | 2 |
| Many changes | 3 |
- D. Complexity of rhythm and meter:
- | | |
|------------------------------|---|
| Simple | 1 |
| Moderately complex | 2 |
| Complex | 3 |
| Variable - simple to complex | 4 |

Harmonic structure was judged against chord structure, mode, consistency of style, and modulation. Eight classifications were made of chord structure. The first, "extremely simple," designated music in which the chord structure was made up of nothing more complicated than the simple tonic, dominant and sub-dominant triads. Some hymns and many pseudo-folk songs will fall in this category.

Classical harmonies are primarily those used by the classical and pre-classical composers in which there is a rich pattern of harmonies but, because of their characteristic clarity and the musical forms and styles in which they were used, sound different from the same

harmonies when used by the romantic composers.

Romantic harmonies are characterized by the frequent use of various kinds of seventh chords, much chromaticism and chromatic resolutions of chords, and frequent, often non-classical, modulations.

Impressionism with its avoidance of the obvious is characterized by shifting harmonies in which ninth chords play an important role. Parallelism in chord progressions and the frequent lack of a strongly magnetic tonic center are also prime characteristics.

Modern classical music is often difficult to categorize. There are a variety of harmonic vocabularies in use in contemporary music, some of which seem to be a mere extension of romanticism and impressionism. For the purposes of this study modern classical harmonies were judged to be those of such composers as Copland, Harris, Prokofieff, and Shostakovitch.

Modern popular harmonies make abundant use of seventh, ninth, eleventh, and sixth chords but usually, at least in "commercial" jazz, are rather innocuous in their dissonant effect. A few proponents of the "jazz man's jazz" indulge in chord patterns which bear little resemblance to commercial jazz and are indeed frequently atonal in character.

Atonal chord structure was judged to be that which

is best characterized by the music of Schoenberg, Webern, Berg, and possibly some music of Hindemith and Stravinsky. To the layman (and some musicians) it is notable because of much dissonance and an almost complete lack of tonal center.

Modal harmonies are found in music from all eras in western musical culture. Built upon modal scale patterns they provide a characteristic and unique sound.

The second judgment which was made about harmonic structure concerned mode. The method of tracing mode on the graph has already been discussed. (Cf. p. 102).

A third judgment concerned consistency of style. The problem here was merely to determine whether any given composition stayed "in character" with regard to harmonic and formal structure or whether there was a significant shift in compositional style which would give the impression that one part of the composition did not belong to or was not compatible with another part.

The fourth and last judgment concerned frequency of modulation. The music was judged to contain no, little, or much modulation.

These judgments were recorded on the following form:

HARMONIC STRUCTURE

A. Chord structure:

Extremely simple	1
Classical	2
Romantic	3
Impressionistic	4
Modern classical	5
Modern popular	6
Atonal	7
Modal	8

B. Mode:

Major	1
Minor	2
Alternately major - minor	3

C. Consistency of style:

Consistent style	1
Inconsistent style	2

D. Frequency of modulation:

No modulation	1
Little modulation	2
Much modulation	3

Formal structure judgments were made concerning the over-all form, phrases, specific musical form, amount of repetition, and whether abstract or programmatic.

The first judgment concerned the over-all formal structure - whether homophonic, polyphonic, or alternately homophonic and polyphonic. Naturally, not all polyphonic compositions come from the golden age of polyphony. Examples of polyphony may be found in many different musical eras and compositional styles. The term here was taken to mean the simultaneous sounding of more or less equally important melodic lines which incidentally provide harmonic texture.

The second judgment concerned regularity of phrases whether regular, irregular or alternately regular and irregular. A regular phrase was meant to be one which was the usual, two, four, or eight bars in length. Irregular phrases were any others which could not be placed in this category.

Thirdly, a judgment was made concerning the composition's form. The rather large number of musical forms which are encountered in the usual course in Form and Analysis were not considered to be practical classifications for the purposes of this study. Instead, four major classifications of form were set up by which virtually all of the music concerned in this study could validly be categorized and which proved to be more meaningful in later interpretations of each subject's musical preference data. The classifications used were: (1) simple song form, which covers nearly all music of a popular or semi-classical nature, (2) complex song form, which included more extended and subtle works of a lyrical or song-like character, (3) regular large form, which covered those compositions or portions of compositions characterized by a formal structure similar to that of first and last movements of the symphonies and chamber works of the classical composers, and (4) irregular large form, which included those compositions whose formal structure constituted an extension

or marked modification of the same forms as used by the classical composer or the rather free and sometimes unique forms often used by the late nineteenth and twentieth century composer.

The fourth judgment concerned the amount of repetition. The unit of measurement in this case was the phrase. Much repetition is found in the typical Hit-Parade popular piece wherein the phrase pattern usually consists of an a-a-b-a sequence. In addition, repetition is even more pronounced because of the repetition of the entire chorus several times during the course of the typical three-minute tune. Much classical music is repetitious too, but the repetitions are usually separated by contrasting or transitional material. Then again, much classical music repeats very little, or when it does, with much subtlety or in the form of variations or extensions of the original phrase.

The last judgment was a categorizing of the composition according to whether it was abstract or programmatic. Abstract music was determined to be that music about which there were no clues regarding its representative or emotional content. Music was categorized as programmatic wherever a title, a story, an obvious tonal representation of non-musical sounds, or a vocal text provided an explanation, either fragmentarily or completely of what the

music was supposed to mean to the listener.

These judgments were recorded on the following form:

FORMAL STRUCTURE

- | | |
|-----------------------------------|---------------|
| A. Over-all formal structure: | |
| Homophonic | 1 <u> </u> |
| Polyphonic | 2 <u> </u> |
| Alternately homo-polyphonic | 3 <u> </u> |
| B. Regularity of phrases: | |
| Regular phrases | 1 <u> </u> |
| Irregular phrases | 2 <u> </u> |
| Alternately regular and irregular | 3 <u> </u> |
| C. Form: | |
| Simple song-form | 1 <u> </u> |
| Complex song-form | 2 <u> </u> |
| Regular large form | 3 <u> </u> |
| Irregular large form | 4 <u> </u> |
| D. Amount of repetition: | |
| No repetition | 1 <u> </u> |
| Some repetition | 2 <u> </u> |
| Much repetition | 3 <u> </u> |
| E. Abstract or programmatic: | |
| Abstract | 1 <u> </u> |
| Programmatic | 2 <u> </u> |

Type of musical composition - in this case, aesthetic type - has been a rather frequent basis upon which music has been categorized. The Keston Musical Preference Test categorized all music into four types: severely classical, popular classical, semi-classical, and popular. The first three categories were used here, but with some other additions. Most popular music fans themselves will place popular music into at least two major categories.

Popular music which is of the "sweet" type, wherein a more or less stereotyped harmonic texture and instrumentation is evident is perhaps best characterized by "Hit Parade" performances. This type of popular music has been referred to as "commercial jazz." In the second category may be placed "good jazz" or "real jazz" where the musician is not performing for the masses but especially for that comparatively smaller group who appreciate popular music which is more subtle, complex, and experimental in its structure. This has been labeled for this study as being connoisseur's popular music. Country-western, or hill-billy music doesn't seem to fall properly in either the "Hit Parade" or "connoisseur's popular music" category and therefore exists as a separate category. Neither does popular sacred music of the sort which is heard so much in religious and revival broadcasts, and therefore was also categorized separately. The last category was reserved for nonsense or novelty music which is obviously performed to be funny, satirical, or whimsical. Spike Jones is a well-known proponent of this type of music. It was found necessary to add this last category to the list after the study was under way.

After the recording had been categorized according to one of these eight types it was noted on the following form:

TYPE

Severely classical	1
Popular classical	2
Semi-classical	3
Hit Parade popular	4
Gonnoisseur's popular	5
Country-western	6
Popular sacred	7
Novelty	8

Performance medium was the last musical factor by which each recording was judged. It simply consisted of a listing of solo media, accompaniment media, and if not a solo, ensemble media. Appropriate check marks were made on the following form:

SOLO

Female voice	1
Male voice	2
Piano	3
String	4
Woodwind	5
Brass	6
Guitar	7
Accordion	8
Organ	9
Percussion	10

ACCOMPANIMENT

Piano	1
Orchestra	2
Dance band	3
Hill-billy band	4
Guitar	5
Accordion	6
Organ	7
Percussion	8
Piano-rhythm	9

ENSEMBLE

Large orchestra	1
Small orchestra	2
String orchestra	3
Band	4
Mixed chorus	5
Male chorus	6
Female chorus	7
Dance band	8
Hill-billy band	9
Small string ensemble	10
Small woodwind ensemble	11
Small brass ensemble	12
Small female vocal ensemble	13
Small male vocal ensemble	14
Small mixed choral ensemble	15
Male-female duet	16

Devices Used in Analyses of Recordings

The analyses of the recordings were greatly aided by the use of a Miessner Phonoscope.* This is a record player coupled with an optical system which causes a beam of light to move down a scale, which is graduated in seconds, as the reproducing needle travels inward while playing. The scale is marked on a frosted glass, each calibration representing a two-second interval. Seconds are marked numerically in ten-second intervals, as were the intervals on the matching master sheet which was specially prepared for this study and which has been described above. The master sheet was slipped under a

* The Miessner Phonoscope is a Dukane product of the Operadio Manufacturing Co., St. Charles, Ill. Model no. 14A150 was used in this study.

clear plastic shield mounted over the scale, matched to the scale's calibrations, and held in place by a spring clamp. As the recording was played it was necessary only to keep the pencil trace of any given musical factor directly opposite the light beam as it moved down the scale. When it was necessary to recheck a portion of the composition one had only to lift the pick-up and move it toward the outer edge of the recording to the place where the light beam, which moved synchronously with the pick-up, indicated the proper place to lower the needle onto the recording.

The recording could be played either through ear phones or a speaker. In order that the physical set-up of these analyses might be replicated with regard to loudness level by another investigator, all recordings were played through a loud speaker. Before the analysis of any given recording was begun the volume was adjusted at a comfortable and easily heard level for the investigator who sat approximately six feet from the speaker. A recorded thousand cycle tone (Columbia Technical Series WT - 1 recording no. 10003-M) was played through the speaker and a decibel reading taken on a sound-level meter,* the

* General Radio Co. Sound Level Meter, Type 759-B was used. The reading scale was set on "slow" and the weighting scale on "C" (flat response).

microphone of which was placed exactly three feet from the center of the speaker cone. This reading was noted on the master sheet so that another person could reconstruct this set-up and base his subjective judgments of relative loudness on the same over-all level with which it was heard by this investigator.

This particular model of the Miessner Phonoscope will play only 78 rpm recordings. However, it still proved to be of immense help in the analysis of 33 1/3 and 45 rpm recordings. By playing micro-groove recordings through a system independent of the Phonoscope and using the latter's optical system, tracings could still be made. A recording on the Phonoscope and the micro-groove recording to be analyzed were started at the same instant; sound was heard through the latter's playback system and the former provided the moving beam of light representing passage of time in seconds. No sound was heard from the Phonoscope since it was not connected to either ear phones or a speaker. As the beam of light reached the five-minute mark of the scale both needles were lifted, a new master sheet was inserted in the Phonoscope, and the needles were dropped on the recordings simultaneously, the micro-groove needle at the exact spot where it had been lifted and the Phonoscope needle at the outside edge of the dummy recording.

It should be mentioned here that a less efficient but workable system of time-tracking can be effected through the use of a stop watch. When held in one hand directly above the hand marking the trace, one eye can be kept on the watch to note the passage of time.

Coding of Data on IBM Cards

In order to make tabulations and comparisons more easily, a system was devised whereby all musical data could be recorded on International Business Machine cards. The master sheet on which all musical judgments about each composition had been made lent itself readily to transmutation in code on these cards.

The IBM card is made of light cardboard measuring $3 \frac{1}{4}$ by $7 \frac{3}{8}$ inches. On it is printed eighty parallel columns of figures each of which contain numerals running from 0 at the top to 9 at the bottom. Items of information may be coded according to these numbers, though only one number may be punched in any one column. In addition to these ten digits there is space for two more punches in any one column. These spaces may be designated by any symbol which is convenient for the user. Any, all, or any combination of the eighty columns may be used.

A special machine punches small rectangular holes in the card, removing the desired numeral. After a number

of cards have been prepared in such a manner they may be placed in a sorting machine which automatically feeds each card between a revolving metal cylinder and eighty slender electrical contacts which are sprung against the cylinder. The sorting machine may be set to sort and tabulate the cards for only one column at a time. As the card passes over the cylinder the electrical contact closes a circuit as it drops into the hole punched in that column causing a carrier belt to deposit the card in a bin corresponding to the number punched, and to tabulate it by means of a mechanical counter mounted above the machine. As an illustration, suppose one wanted to know how many 18-year old students were in a university student body. The machine would first be set at the column which contained the age information. As the stack was run through the machine all the cards designating 18-year olds would be deposited in the same bin and a running tabulation made of them on the mechanical counter. The cards for this group of students could be run through the machine again in order to find out how many of them were in a given school of the university, or how many were women, etc., after the machine had been set at the particular column which contained this information.

In this study the first three columns were reserved to identify each particular composition. Columns 4, 5, 6, and 7 were reserved to identify the measure or measures of

musical preference in which this composition appeared. The next twelve columns identified each of the twelve subjects and the rating he gave the composition. For example, if, as in the case of the Daily Log, a particular composition had been rated by two subjects, a punch would appear in the columns reserved for them and none in the columns of the other subjects. The number punched out would represent the rating given by each subject. Numbers 1 through 5 in the column represented positive ratings, 5 being the highest possible rating; numbers 6 through 9 and one of the extra spaces for punches represented negative ratings, the latter punch representing the most negative rating. Fifty-six of the remaining sixty-one columns were used to code the judgments which had previously been made on the forms described on pp. 90-114. Five columns were not used.

In order to make it easier for a trained punch machine operator to punch these IBM cards with a minimum of errors, all of the coded information was first transferred from the master sheets to mimeographed work sheets. On these work sheets appeared the number of each column, a word or phrase identifying the informational content of that column, and a space for the investigator to record a number which represented the specific judgment which had previously been made concerning the criterion in question. After the IBM cards were punched the work sheets were of no further use except to check for errors in punching.

It is understood that IBM punching and sorting machines are not always readily available to anyone who might wish to use this system. There is no reason why simpler and much less expensive systems such as the McBee Keysort card system might not be used. Though somewhat more cumbersome and time consuming than the system used here, they do have the advantage of modest cost and compactness.*

After cards for every musical composition and excerpt involved in the study had been punched, it remained to run them through the sorting machine and to secure many tabulations which were gathered for each subject. This meant that four different tests and measures were each run through the machine one to six times, depending on the criterion, for each of the fifty-six different musical criteria and for each of the twelve subjects. Approximately five thousand single operations were made on the sorting machine. Needless to say, this technique saved many hours of tedious work and is certainly much faster and more efficient than a technique whereby tabulations would be made by hand directly from the master sheet.

* For an excellent survey of existing punched card classification systems and their use, the following book is recommended: Punched Cards - Their Application to Science and Industry. Edited by Robert S. Casey, published by Reinhold Publishing Corp., 330 W. 42nd St., New York, 18, New York.

Evolverment of Musical Preference Indexes
From Frequency Tabulations

Tabulations were made on specially prepared forms, a sample of which appears on the following page.* This sample is a copy of the tabulation form prepared for the criterion, "Tempo." Similar and appropriate tabulation forms were prepared for each of the other criteria.

The symbols appearing above each column should be interpreted as follows:

- f - frequency of compositions classified according to the given criterion and categorized according to the rating assigned by the subject.
- r - rating, 10 represents the highest possible (most positive) rating and 1 the lowest (most negative).

* Several changes should be noted: On pages 76-77 (q. v.) a description appears concerning the form on which the subjects indicated their ratings of Daily Log items and the Forty-Eight Excerpts. In order to avoid the inconvenience of dealing with negative numbers in computing the Musical Preference Index, the rating scale was changed on this tabulation chart so that 10 became the highest positive rating, and 1 the lowest negative rating. These figures represented the mid-point of their interval, 5.5 being the division point between a negative and a positive reaction.

The composition rated first among the Five Preferred Recordings was arbitrarily assigned a rating of 10 while the composition rated fifth was assigned a rating of 5. The remaining three compositions were rated accordingly.

In the Keston Musical Preference Test first choices were assigned a rating of 4; second choices, 3; third choices, 2; and fourth choices, 1.

SUBJECT _____ MEASURE _____

TIMPO		10	9	8	7	6	5	4	3	2	1	$\sum f$	$\frac{\sum fr}{\sum f}$	Average Response (AR)	$\frac{\sum fr}{Total}$	Percent Score (PS)	wt.	$\sum fr \times wt.$	$\frac{(\sum fr \times wt.)}{\sum fr}$	MPI	Q of MPI
Predominant tempo	Lento-andante																				
	Moderato																				
	Allegro-presto																				
	Totals																				
Frequency of change	Steady																				
	Infrequent																				
	Frequent																				
	Totals																				
Speed of change	Gradual																				
	Sudden																				
	Both																				
	Totals																				
Amplitude of change	Small																				
	Large																				
	Both																				
	Totals																				

- AR - Average Rating, computed by dividing the sum of the fr's by the sum of the f's.
- PS - Per cent Score, computed by dividing each fr by the total of all fr's within a given criterion, (e. g., "predominant tempo"). The PS was computed only for the Daily Log and Five Preferred Recordings since no limitations were imposed upon the subject with regard to his choices, it being assumed that he had, theoretically, an infinite number of compositions from which to make his choices and that a PS computed on the basis of an adequate sample should be a reliable indication of his preferences had he submitted an infinite number of compositions. Since there was an element of forced choice in the other two measures it was judged that the PS could not be fairly applied to them.
- wt. - A weighting was given each sub-category of those criteria which existed as a continuum as part of the process of computing a measure of central tendency.
- MPI - Musical Preference Index, a measure of tendency based upon an arbitrary scale ranging from 0 to 100.
- Q - Quartile, a measure of variability which is half the distance between the 25th and 75th percentile in a frequency distribution.

To clarify further this unique form, it should be observed that the frequency with which each lento-andante composition appeared was noted according to the rating or ratings these compositions received. A weighting was given wherein the frequency was multiplied by the rating (fr). The fr's were then summed and divided by the total frequencies to determine the average rating (AR) of all those compositions whose tempi were judged to be lento-andante. The same procedure was then followed for the other two criteria of tempo - moderato and allegro-presto.

In order to determine the central tendency of the subject's ratings when all the items within the measure had been categorized according to tempo each average rating was weighted, the weighted ratings summed and divided by the sum of the unweighted average ratings. This figure then became the Musical Preference Index (MPI).

As a further refinement, a measure of variability (Q) was computed. The MPI and Q could be computed only for those criteria which existed as continua. It will be noted that "Predominant tempo" and "Frequency of change" exist as continua but that "Speed of change" and "Amplitude of change," as here described, do not. The latter are described in terms of discrete categories and a measure of central tendency is therefore not applicable. Interpretation of this and other discrete categories will be based upon the Average Rating (AR) of each category.

All criteria which existed as continua were sub-categorized into either three or four categories. The highest weighting was given to that end of the continuum which represented the most stimulative or mobile aspects of the criterion and the lowest weighting to the least stimulative or static aspects. The weightings were chosen so that the final MPI and Q could be represented on an arbitrarily chosen, but convenient 100-point scale. For example, a MPI of 100 represents music which is fast, loud,

extremely rhythmical, extremely staccato, and with frequent changes in its dynamic elements, and a MPI of 0 represents music which is slow, soft, hardly rhythmical, extremely legato, and with no changes in its dynamic elements. A MPI of 50 represents a point half way between these extremes.

Having now arrived at a point where all musical preference data had been reduced to comparable scores, comparisons between subjects and groups of subjects could be made in an effort to seek out any relationships which may exist.

CHAPTER V

RESULTS OF THE TESTS

This chapter consists of a summarized description of each subject's personality, a tabular presentation of the scores he made in each of the various measures and tests of musical preference, and the interpretation of these scores.

The original personality summaries* as prepared by the psychologists averaged approximately twelve pages in length. For the sake of clarity and elimination of redundancy these original summaries have been reduced to approximately four pages in length. An effort was made to extract key statements and pertinent information, collating them in such a way that they formed an adequately comprehensive and detailed picture of each subject's personality. The raw scores of the various tests used in these analyses appear in Appendix A (pp. 343-349).

The sub-headings used by the psychologists have been retained in the reduced summaries. They are: overt life-plan, values, temperamental endowment, covert structure, conflicts, and assessment.

* The original summaries are available and may be examined upon request by qualified persons.

The "overt life-plan" refers to the aspirations and life-goals as stated by the subject. This sub-heading also includes autobiographical material, provided by the subject, which seemed to be of importance in acquiring an understanding of and an explanation for certain facets of his personality.

The sub-heading "values" includes a description of the subject's interests and the central guide-lines which regulate and motivate his daily activities. Values have been rank ordered, wherever possible, according to the Spranger system.¹

The subject's "temperamental endowment" includes an evaluation of his intelligence and motor ability, modes of thought, response to various types of sensory stimuli, and strength and quality of response to aesthetic stimuli in certain areas.

Under "covert structure" the psychologists have attempted to seek out and identify those needs and drives which largely exist at a subconscious level and then determine how successfully and in what ways the subject has sublimated, rationalized, repressed, or satisfied them.

The sub-heading "conflicts" is a logical follow-up of the preceding section. The subject's conflicts, if any,

¹ Spranger, E., Types of Men: M. Niemeyer, 1928. 402 pp.

are described both from the standpoint of environmental conflicts and intra-psychic conflicts.

The last section of the summary is labeled "assessment" and is a brief statement or two which recapitulates the most important items appearing in the previous sections.

In many cases the phraseology used by the psychologists was unusual, if not unique, but was deliberately used to effect a particular shade of meaning. In the reduced summaries, as they appear in this chapter, such phraseology has been retained. A more formal style of discourse would have, in most cases, obscured the meaning intended by the psychologists.

Much of the musical preference data and the system of presentation of the data appearing in the tables in this chapter is unique. For that reason it is essential that the footnote appearing at the bottom of the first page of Table I (p.133) be read before a proper interpretation can be made of the figures appearing in the tables. Such data, together with biographical data submitted by each subject on the questionnaire, provided the information from which interpretations were made. An effort has been made to interpret this data briefly, yet adequately, and as objectively as possible. Inferences and conclusions which may be drawn from both the musical and psychological data will appear in the following chapter.

Beta's Personality

Overt Life-Plan

Beta wants to raise a "normal," healthy and happy family, but keeping up her extrafamilial cultural "interests" is essential. In childhood, lack of compliance was, for her, the worst sin. It was a duty to be striving for "the higher culture," but she always felt emotionally and socially rejected at home. Thus, passivity was reinforced out of fear of more rejection while she craved acceptance.

Values

Social acceptance is the dynamo that keeps Beta's other values running. In Spranger's terms social value is highest, political and aesthetic second and third, economic fourth, theoretical fifth, and religious last.

She values intelligence, education, and critical thinking, but she wants social acceptance enough to put up with dullness. Culture is valued in the same way. An emotional hunger for close emotional attachments is behind all the values and possibly accounts for their narrowness.

Temperamental Endowment

Intellectually Beta is genuinely superior and orients well toward abstractions; common sense is less

natural to her. She seems to find intellectual activity an escape from practical problems - a sort of mental play. In the realm of fantasy she shows genuine creativeness.

In interest-orientation she turns toward the sources of excitement which are removed from daily life, i.e., day-dreams, fantasies of other times and places, drama, literature, and, in addition, gets some gratification from analysing the covert motives and emotions such as she meets in psychopathology and social case-work. At present she feels she has missed her most natural and temperamentally "right" life pattern, but does not know what it is she has lost.

Covert Structure

Because of her parents' need to nurture Beta, their attentions were not only dominating, but restricting to the point where she felt forced into narrowing her interests and experiences to "proper" ones and so found herself satiated and bored. Her need for affection, age-mate companionships, and recognition, which she felt must be secured "out-of-bounds" from the standpoint of parental authority, was counteracted by fear and guilt feelings regarding the danger of losing parental affection and even their irksome "nurturance."

The home situation was reinstated when she married a socially desirable male who expected her to confine her needs and wants to proper housewifely duties, and who failed to allow her the intellectual independence she so much desired. She has a narrow range of mechanisms for getting what she wants, namely, affiliation fused with recognition. Her primary method is perfect, hence praiseworthy, compliance. Her secondary method is excelling intellectually or otherwise until she attracts an admirer. The two are so in conflict they defeat each other.

In terms of formal defense mechanisms she uses little repression and super-ego control; the covert thema is almost identical with her overt statements. She uses primarily intellectualization, and secondarily the following: denial, "compartmentation," and suppression. Her ego is strong, i.e., she can make consistent plans and follow them, however, she does not know toward what goals she wishes to make plans, hence she has gotten only half of what she really wants but does not know why she failed to get all, or even what is lacking.

Conflicts

Environmentally her primary conflict is that she is seen as snobbish as long as she fears rebuff and withdraws. However, she has handled this fairly well and has

no pressing external problems because of her compliance and intelligence.

Assessment

Beta is bright, flexible, capable of reaching almost any goal she sets for herself, but without an ego-ideal, hence drifting, lost, and at the mercy of her own cross-purposes. She wants affection, but does not know where to find it; wants recognition, but got it (through marriage) at the price of ultimate defeat of personal achievement because she arranged to shine in reflected light; wants intellectual recognition, but does not know she also wants intellectual stimulation in and for itself rather than as a sign of the cultured mind.

There seems no danger of psychosis or even severe neurosis, since she has agreed to strive to make the best of her mediocre bargain.

Beta's Musical Preferences

Musical Background and Training

Participation in Music. Other than being exposed to eight years of grade school general music classes, Beta did not participate in any school music organizations. She studied piano privately for two years, the violin for

TABLE I

BETA'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE¹

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TONE COLOR:																
Piano	1	5.00			2.17	19	2.53		11	6.82		3	9.00			
Plucked strings	1	9.00			3.72	25	2.36		5	7.20						
Bowed strings	5	8.00			16.14	91	2.55		23	7.35		2	7.00			
Brass	7	7.46			19.87	94	2.48		20	7.25		2	7.00			
Woodwind	7	7.46			19.87	107	2.46		23	7.52		2	7.00			
Female solo voice	7	6.00			8.38				4	7.50						
Male solo voice									5	7.80						
Female vocal ens.	1	5.00			2.17				1	6.00						
Male vocal ens.									3	7.00						
Mixed choral ens.	1	5.00			4.34											
Guitar	1	9.00			3.72	1	4.00		1	7.00						
Percussion	7	7.46			19.56	73	2.43		10	7.20		2	7.00			
STACCATO-LEGATO:																
Prime melody	8		63.90	20.50		114		50.11	44		48.34	4		47.82		
Background	8		67.39	22.34		114		45.89	44		48.13	4		63.40		
Total effect	8		63.21	21.00		114		50.36	44		48.29	4		47.82		

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range, PS = Per cent Score

1 The above figures should be interpreted, beginning at the left hand column, as follows:

There was one composition in Beta's Daily Log list which contained piano tone color. This

piece was rated 5 on the affective scale (10 being the highest—most pleasant ratings, 0 the lowest—most unpleasant rating) and the piano tone color was present in 2.17 per cent of all the Daily Log items. In the Keston Test there were 19 pieces containing piano tone and the average response to these pieces was 2.53 (4 being the highest rating; 1, the lowest). In the Forty-Eight Excerpts Test there were 11 containing piano tone color and the average response to these pieces was 6.82 (same rating scale as for the Daily Log). Of Beta's Five Preferred Recordings 3 contained piano tone color, the average response being 9.00 (first choice among the Five Preferred Recordings was assigned a rating of 10, fifth choice a rating of 6; the other three choices were rated accordingly). Where no figures appear for a given tone color, that tone color was not present in the test or measure in question.

The next major criterion is STACCATO-LEGATO. This exists as a continuum, i.e., there are an infinite number of degrees between extreme legato (represented by a MPI of 0) and extreme staccato (represented by a MPI of 100). Among Beta's Daily Log items the MPI for the "Total effect" is 63.21 which should be interpreted as being definitely on the staccato side, since a MPI of 50.00 represents no tendency toward either staccato or legato. (This is the case in the Keston Test score which is 50.36). The remaining two MPI scores show a slight tendency toward the legato end of the scale. The Q means that fifty per cent of the cases lie within 21.00 on either side of the MPI (63.21).

The criteria of TEMPO, SEDATION-STIMULATION, DYNAMICS, and RHYTHM also exist as continua, in which case a MPI of 100 would mean the fastest, most stimulative, loudest, and most rhythmic music and a MPI of 0 the slowest, most sedative, softest, and least rhythmical music. Again a MPI of 50 would indicate no tendency toward either extreme. The Q score for all STACCATO-LEGATO criteria and the criterion "Prominence of pulse" under RHYTHM can never be smaller than 8.33 nor larger than 50.00. For all the other criteria which exist as continua Q will never be smaller than 12.50 nor larger than 50.00.

TABLE I (continued)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
SEDATION-STIMULATION:														
Overall degree S-S	8		53.33	35.76		120		48.26	44		51.78	4		45.09
Frequency of change	8		53.71	37.19		120		38.09				4		55.10
DYNAMICS:														
Predominant level	7		77.50	12.25		102		62.02	35		47.93	3		71.42
Frequency of change	8		46.03	38.24		118		52.84	44		50.62	4		75.75
HARMONIC STRUCTURE:														
Chord structure														
Simple	1	7.00			11.47				4	7.25				
Classical						20	2.60		8	6.75				
Romantic	3	9.00			44.26	61	2.55		15	7.40		2	7.50	
Impressionistic						2	2.00		3	7.67		1	10.00	
Modern classical						1	3.00		1	6.00				
Modern popular	4	6.75			44.26	34	2.35		10	7.70		1	8.00	
Frequency of modulation	8		26.39	37.44		118		51.25	43		46.86	4		76.47
RHYTHM:														
Prominence of pulse	8		38.09	21.87		120		43.35	44		47.01	3		28.57
Variability of prom.	8		54.31	49.80		120		53.19	40		51.65	4		50.00
Var. of pattern	8		52.63	39.37		111		46.53	38		44.94	4		74.48
Complexity of rhythm	7		0.00	12.50		111		53.35	38		49.24	2		30.65

TABLE I (concluded)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
TYPE:														
Severely classical						31	2.29		23	7.22				
Popular classical	2	9.00			29.50	29	2.72		3	6.67		3	8.33	
Semi-classical	2	8.00			26.22	30	2.70		7	7.71		1	8.00	
Hit Parade popular	4	6.75			44.26	8	2.50		5	7.80				
Connoisseur's pop.						22	2.50		5	6.80				
Country-western									1	7.00				
Novelty														
PERFORMANCE MEDIUM:														
Solo														
Female voice	3	6.00			66.67				4	7.50				
Male voice									5	7.80				
Piano									6	7.17		3	9.00	

two years, drums briefly, and says that she "didn't accomplish anything at all." She sang for a short period in a church choir.

Family Musical History. Though none of her family had ever had any musical training they were anxious to give Beta the opportunity to study music if she wished. Music was rarely performed in the home. A radio was available, but no phonograph or piano.

Favorite Vocalist. Ezio Pinza.

Favorite Instrumentalist. Jose Iturbi.

Rank Order of Preferred Types of Music. Light classical, "sweet" popular, folk music, severely classical, "hot" popular, hymns, hillbilly.

Outstanding Musical Experience. Beta attended performances of several well-known and popular operettas and musical shows and was undecided which of these provided the most memorable musical experience.

Record Library. Her rather modest library of recordings were preponderantly of the Hit Parade type. There were a few semi-classical and popular classical recordings.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Beta submitted sixty-three Daily Log cards of which forty-six indicated popular and a few semi-classical vocal compositions, nearly all with orchestral accompaniment. Her comments showed that many of the compositions were preferred because they aroused pleasant associational memories and usually were light and gay. The appeal for music which painted a romantic picture through words and tone was very strong. She disliked "novelty" music with nonsense words, and music which was cloyingly sentimental such as "Daddy's Little Girl." Seemingly there was no great preference for a particular vocal quality, but rather, more concern with the word content of a song.

Five Preferred Recordings.

- (1) Clair de Lune - Debussy (Iturbi)
- (2) Polonaise in A-flat - Chopin (Iturbi)
- (3) Rhapsody in Blue - Gershwin
- (4) Londonderry Air - Romberg arrangement
- (5) Grand March from Aida - Verdi

Keston Test of Musical Preference. She ranked fifth highest among the twelve subjects with a score of 98.18.

Interpretation of Musical Criteria Scores

Tone Color. Since Beta's choices were nearly always

performed by or accompanied by orchestras there was a great deal of bowed string tone and somewhat less of brass and woodwind tone. Piano color was usually rated highly. Other than piano no single tone color seemed to be strongly appealing, with the possible exception of bowed string tone.

Staccato-Legato. When judged by this criterion Beta's musical preferences showed no marked tendencies.

Tempo. A wide variation existed here, though there appeared to be a tendency for Beta more often to rate pieces in moderato or slower tempo, higher than those in a faster tempo.

Sedation-Stimulation. Again, a wide range existed here with no apparent, noteworthy tendencies.

Dynamics. Beta's preferences exhibited a wide and rather frequently varying range of loudness and dynamic accent though the majority of her preferences were above mf.

Harmonic Structure. Her preferences when judged according to chord structure were preponderantly romantic, modern popular, or impressionistic.

Rhythm. There was a decided preference for music with a rather weak rhythmical pulse, although frequently

there were fluctuations in the prominence of the pulse. The rhythmical pattern was almost invariably simple.

Formal Structure. Virtually all of Beta's preferences were written in simple song forms, with regular phrase structure, and with much repetition.

Type. Although a few pieces were well-liked in any type-category, nearly all of Beta's free choices were classified as Hit Parade popular, semi-classical and popular classical - in that order.

Performance Media. Even though solo voices and to a much lesser extent vocal ensembles appeared among Beta's choices, it was not a particular voice which appealed as much as the melody, and especially the lyrics. Other than this, the piano as a solo instrument and the dance orchestra or small concert orchestra provided the media of performance for the majority of Beta's listening.

Summary Statement

Beta showed a rather eclectic interest in music - more so than any of the other eleven subjects, although most of the music which she chose for herself can be characterized as containing romantic, or popular harmonies, apparent but not strong rhythmical pulse, and regular phrases which were much repeated. The words of songs were

important to her, and many of the pieces were preferred because of strong and pleasant associational memories which they aroused. No other criteria by which her music were judged appeared to establish any consistent or important tendencies.

Lambda's Personality

Overt Life-Plan

Lambda wants to become a secretary and travel abroad. She expects her college education to relieve her of physical work and household drudgery.

Probably because of her family's affective distance and its lack of warmth, Lambda was disposed, first, to get away, and second, to find a certain security in the absence of a need for enduring human ties. She developed a genuine self-sufficiency in this cool family and now close relationships are unknown or even repugnant.

Values

In terms of Spranger values, the highest value seems to be a fusion of social and economic, consisting of status leisure, comfort, and upward mobility. The aesthetic comes next, with theoretical coloring the aesthetic so that literature and languages are cathected. The

political value is somewhat above religious, but both are weak. She values the classics in music, art, and literature because they are considered to be classics, not because she really enjoys them. This is an indication of her upward mobility. Seeing cultures through languages, in which she is much interested, is a distancing of the relationship to the people, and a window through which to see them without becoming, in the personal sense, emotionally involved.

Temperamental Endowment

Lambda's basic intelligence is probably very superior. Her verbal ability is higher than her performance ability. She particularly excels in knowledge and reasoning concerning social organizations and cultural conventions. She has a good deal of creative imagination which expends itself in fantasy and rather arbitrary whimsy rather than in deeper abstract thought. She orients toward indirect rather than direct formulations of experience. This is a sort of "buffering" reaction which enables her to tolerate the full range of available material which might otherwise be more traumatizing; e.g., in her aesthetic preferences she likes woodcuts and pictures with low color, "irreal" style, and outdoor scenes.

Covert Structure

She wants to be given love and benefits, but feels that in most cases people will attempt to exploit her, which, she also feels, is sheer sadistic aggression. Rather than hoping for affection she renounces it in any close personal sense and decides to rely on herself. When she feels she is being exploited the only satisfactory solution she sees is to quietly understand the situation without too much startle, and, with her newly developed insight, counteract the various forms of exploitation through cool-headed self-reliance, competence, autonomy, inviolacy, and the renunciation of close affective ties as a way of life.

Thus a whole series of joyful, sensual and playful gratifications go by the board, namely, she expresses no need for sex, nurturance, play, and excitement. She invests her affective response narcissistically, nurturing herself and furthering her own interests for lack of a better object, i.e., another person who fits her special requirements.

Conflicts

She has no major environmental conflicts although her social discomfort flares up when she is in uncongenial groups. She has sublimated or withdrawn from her strongest conflict - how to get affection on her own terms, i.e., no asocial sex and no entangling complications.

Assessment

Other people probably see her as hard to get to know, competent, intelligent, attractive - at least superficially, hard-working, and mature in her sense of direction. The psychologist sees her as paying a price for her apparent lack of problems, namely, by renouncing certain kinds of emotional situations and by withdrawing from close human ties. She is self-reliant but turned in on herself for gratification and stimulation to the point of narcissism. Secretarial work is congenial to her type of intelligence which is high in comparison with those with whom she will compete. She is making adequate progress toward her goals. There is no immediate danger of serious neurosis or psychosis, but she might be seen as a little prig if her self-preoccupation turns her completely sour.

Lambda's Musical Preferences

Musical Background and Training

Participation in Music. Lambda participated in eight years of grade school music, three and one-half years in each of the high school girls' glee club and mixed chorus, one year in a small instrumental ensemble, three years in operetta productions, played saxophone eight years in the band, studied piano privately for three years,

TABLE II

LAMBDA'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

Daily Log			Keston Test			Forty-eight Excerpts			Five Preferred Recordings					
CRITERION	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR														
Piano	3	7.00			2.30	19	1.84		11	7.73		1	3.00	
Plucked strings	6	7.67			4.48	26	2.46		8	6.50		2	9.00	
Bowed strings	30	7.67			26.52	90	2.94		24	7.89		2	9.00	
Brass	29	7.58			21.60	94	2.40		23	6.91		2	9.00	
Woodwind	30	7.57			24.06	107	2.49		26	7.04		2	9.00	
Female solo voice	2	7.00			1.53				4	6.25				
Male solo voice	2	7.50			1.66				5	7.00				
Female vocal ens.									1	6.00				
Male vocal ens.									3	7.00				
Mixed choral ens.	1	7.00			0.79									
Guitar						1	1.00		3	5.00				
Percussion	23	7.65			16.28	73	2.30		12	6.58		2	9.00	
STACCATO-LEGATO														
Prime melody	31		33.97	24.68		114		48.23	48		51.11	2		51.84
Background	32		48.87	33.44		114		44.72	48		49.45	2		66.67
Total effect	33		32.65	25.22		114		46.83	45		50.07	2		51.84

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range, PS = Per cent Score.

TABLE II (Continued)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
TEMPO														
Predominant tempo	29		50.15	38.03		120		49.33	48		51.63	2		77.77
Frequency of change	33		51.83	37.11		119		51.64	48		49.72	2		100.00
SEDATION-STIMULATION														
Overall degree S-S	33		52.22	37.40		120		52.40	48		51.90	2		77.77
Frequency of change	32		50.70	36.66		120		39.94				2		77.77
DYNAMICS														
Predominant level	14		50.22	38.38		102		46.67	39		52.32	1		100.00
Frequency of change	32		76.09	24.95		118		56.88	48		54.42	2		72.22
HARMONIC STRUCTURE														
Chord structure:														
Simple														
Classical	2	7.00			5.62	20	3.50		4	5.50				
Romantic	22	7.77			68.67	61	2.95		9	8.44				
Impressionistic	3	8.00			9.63	2	2.50		15	8.07		2	9.00	
Modern classical	1	7.00			2.81	1	3.00		3	7.14				
Modern popular	5	6.60			13.25	34	1.12		1	9.00				
									13	5.77				
Frequency of modulation	33		52.68	36.35		120		62.00	47		55.48	2		72.22

TABLE II (Concluded)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
RHYTHM														
Prominence of pulse	32		46.03	32.47		120		41.35	48		51.73	2		48.16
Variability of prom.	32		51.50	37.54		120		55.92	44		51.97	2		50.00
Var. of pattern	32		50.51	36.95		111		54.82	42		51.82	2		27.77
Complexity of rhythm	15		25.58	25.00		111		56.08	42		49.43	1		0.00
TYPE														
Severely classical	5	7.40			11.85	31	3.38		22	8.96				
Popular classical	19	7.89			60.24	29	3.48		3	8.25		2	9.00	
Semi-classical	6	8.67			16.86	30	2.37		7	7.00				
Hit Parade popular	3	6.67			8.03	8	1.00		6	5.50				
Connoisseur's pop.						22	1.00		6	6.00				
Country-western									2	3.50				
Novelty														
PERFORMANCE MEDIUM														
Solo:														
Female voice	2	7.00			28.00				4	6.25				
Male voice	2	7.50			30.00				5	7.00				
Piano	2	7.00			28.00	1	2.00		6	7.67				

and was a member of a church choir for five years.

Family Musical History. The family had a positive attitude toward her musical training. No one in the family performed except a sister who played several orchestral instruments and piano. The home contained a radio, piano, and an old acoustic phonograph. The record library consisted of a few old popular recordings which "came with the phonograph." Music was performed in the home "fairly often."

Favorite Vocalist. Nelson Eddy.

Favorite Instrumentalist. Jose Iturbi.

Rank Order of Preferred Types of Music. Severely classical, light classical, sweet popular, folk music, hot popular, hymns, hillbilly.

Outstanding Musical Experience. Lambda heard a "live" symphony concert in which was programmed Wagner's Introduction to the Third Act of Lohengrin and Ravel's Bolero.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Two hundred and twenty-five cards were returned - more by far than any other subject. The great majority were descriptive of popular classical and semi-classical compositions. Lambda's comment indicated that

the most appealing features in the music were melody, tempo, rhythm, and words - in that order. She disliked novelty tunes and country-western music, stating that they were trite, repetitious and that there was "nothing to them."

Five Preferred Recordings.

- (1) Introduction to Act III of Lohengrin - Wagner.
- (2) Scheherazade (Scheherazade's theme) - Rimski-Korsakow
- (3) Waltz of the Flowers from The Nutcracker Suite - Tchaikowsky
- (4) "Music of Johann Strauss" - Strauss-Kostelanetz
- (5) "Music of Victor Herbert" - Herbert-Kostelanetz

Keston Test of Musical Preference. Lambda made a score of 33.89 to rank highest among the twelve subjects. (A "perfect" score is 0.00; the "worst," 159.6).

Interpretation of Musical Criteria Scores

Tone Color. This subject's choices included much bowed string tone and somewhat less brass and woodwind tone. There was also much vocal music, both solo and ensemble with full orchestral accompaniment, but no indication that the vocal quality per se held any special appeal. She disliked the guitar, even when classical music was performed on it.

Staccato-Legato. Melodies were most often legato

with a moderately staccato background. The total effect was on the legato side. This was especially true of Daily Log choices. There was, however, quite a wide range of choices between these two extremes.

Tempo. A wide fluctuation in tempi was shown with no marked tendencies toward either fast or slow music.

Sedation-Stimulation. Here the music was usually mildly stimulative, primarily because of dramatic qualities in the music and not necessarily because of fast tempi or strongly pronounced rhythms.

Dynamics. A wide range was preferred with rather frequent fluctuations in loudness level.

Harmonic Structure. Romantic and impressionistic chord structure was most often preferred with classical close behind. Approximately half of the pieces with a modern popular or a modern classical chord structure was only moderately well-liked. Simple, atonal, and modal harmonies were disliked. Preferred music exhibited much modulation.

Rhythm. This was apparently a most affective factor in all of Lambda's choices. Although a wide range in prominence of rhythmical pulse was exhibited there was a definite preference for music where the pulse was only

comfortably apparent with a rather wide range in variability of prominence of pulse, pattern and complexity of rhythmical pattern.

Formal Structure. Lambda's preferences were characterized as being homophonic with regular or regular-irregular phrase structure. A wide variety of forms was represented with the majority being simple and moderately complex song-forms.

Type. Popular classical and semi-classical consistently rated highest with severely classical close behind. A few popular pieces were moderately well-liked. She showed an antipathy for country-western and novelty pieces.

Performance Media. Nearly all pieces were performed by full orchestra and a few by dance bands. She listened to many vocal solos and ensembles and a few violin and piano solos - all with full orchestral accompaniment.

Summary Statement

Lambda participated freely and frequently in varied musical activities during her pre-university schooling and spent many hours listening to favorite radio programs which performed music of a popular classical and semi-classical nature. She disliked country-western, novelty and popular

music, excepting a few selected Hit Parade pieces, and the majority of her musical preferences were characterized by music which varied widely in tone color, tempi and dynamics but which was usually legato and lacking heavy rhythmical pulse, although there were moderately frequent changes in prominence of rhythmical pulse, beat pattern, and complexity of rhythm and meter. The romantic element, musically speaking, was very apparent in nearly all of her preferences.

Mu's Personality

Overt Life-Plan

Mu wants to teach objective subject matter in a secondary school. He wants a family even more than a wife. His whole plan is oriented toward finding something he can do successfully so that he can settle down and raise a family. A family is important to Mu because his family is, and has been, a good one. His plan is flexible and he probably will succeed in effecting it.

Values

Mu's highest value is a religious-social blend with an ethical-familial cast. His other values in order are: economic, political, aesthetic, and least of all,

theoretical. He wants to be recognized as the highest example of a good, wholesome, average person. His personal integrity is an outgrowth of his family's emphasis on living up to one's commitments.

Probably his desire for a room of his own represents a need to get away from the demanding cultural life of college. His dislike of fraternities seems to stem from his desire for a close family-type relationship rather than a required set of social obligations.

Temperamental Endowment

The subject is barely in the superior range of intelligence. His knowledge of social rules and conventions is excellent, but his interpretation of the meaning of others' behavior is arbitrary and often unusual, especially where his own dynamic conflicts are involved. His creative ability is very good, but in his life-plan and value system he refuses to exercise it. He seems to have a lively fantasy life, the content probably being unconscious.

His achievement drive is low because he has not invested much in pushing himself forward. He is capable of stimulation by a much wider range of experience than he is willing to express or capable of expressing.

In his aesthetic preference test he indicated fondness for children, but dislike of intellectual themes as well as pictures dealing with love, couples, and sexual display. He liked realism in pictures and disliked unreal whimsy. This may be a reaction formation to his own tendency to fantasy.

Covert Structure

Although he fantasizes various antisocial urges he knows he must conceal them from others and repress them if possible. The very existence of such a problem depresses him.

Mu overtly feels that he is an average college man with average parents and a prospect for an average life. Covertly this average concept shades toward the low end and carries the concept of being always unnoticed. He feels his ideals are too high, and he dreams constantly of someone taking something away from him.

In terms of defenses, he tries to repress and deny his feelings, fantasies, and urges toward any sort of excitement. He displaces some of his aggression into self-blame and self-righteous indignation and thus he is using all three modes of punitive attribution, i.e., he blames fate for his average endowment and background, blames others for their rejection of him, and blames himself for

urges that do not fit his values. His ego-ideal and super-ego coincide and therefore he is "willing and obligatory," hence does not feel constricted by the prohibitions he freely puts on himself.

Conflicts

He probably will have no major environmental conflicts because he will not stay in any situation productive of such conflict and, fortunately for him, his preferred way of life can be had without much trouble in any small town. However, the pressure of his fantasy-life and the urges his fantasies embody will probably continue to make him feel he is missing something unless he gets more adequate id-outlets in some, as yet undiscernible future.

Assessment

In the eyes of the public he might be seen as somewhat timid and provincial. From the point of view of the psychologist his basic temperamental and dynamic equipment place him at the mid-point rather than at either extreme of almost all psychological dimensions. Because of this, his ego-ideal acceptance of the goal of being superlatively adequate in the proper and culturally desirable ordinary pursuits is peculiarly appropriate to his natural endowment.

TABLE III

JUNIOR'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N* AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR																
Piano	5	7.80		7.61	19	2.21		10	5.70		1	10.00				
Plucked strings	1	7.00		1.29	25	2.60		7	6.14		2	8.00				
Bowed strings	12	7.58		16.66	91	2.80		21	7.43		2	8.00				
Brass	14	7.43		18.82	94	2.42		22	7.05		2	8.00				
Woodwind	14	7.43		19.10	107	2.48		23	7.13		2	8.00				
Female solo voice	1	7.00		1.43				3	6.33		1	8.00				
Male solo voice	4	8.00		6.32				5	6.60							
Female vocal ens.	1	5.00		1.14				1	6.00							
Male vocal ens.								3	8.00							
Mixed choral ens.	6	7.33		8.62							3	8.00				
Guitar	1	9.00		1.58	1	1.00		2	4.00							
Percussion	13	7.46		17.38	73	2.34		12	6.58		2	8.00				
STACCATO-LEGATO																
Prime melody	16		36.55	24.84	114		49.40	43		40.53	4			32.07		
Background	17		31.47	26.04	114		47.38	43		45.33	4			34.63		
Total effect	16		50.90	16.60	114		49.72	43		44.41	4			50.63		

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
 PS = Per cent Score.

TABLE III (Continued)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
TEMPO														
Predominant tempo	13		52.43	30.31		120		50.36	43		48.23	4		50.00
Frequency of change	17		52.54	37.16		119		45.57	43		50.50	4		46.00
SEDATION-STIMULATION														
Overall degree S-S	16		51.89	37.40		120		49.86	42		46.32	4		51.93
Frequency of change	17		50.00	36.18		120		58.37				4		22.22
DYNAMICS														
Predominant level	12		76.55	24.92		102		53.38	35		46.50	3		75.00
Frequency of change	17		46.54	38.32		118		54.55	41		51.23	4		71.87
HARMONIC STRUCTURE														
Chord structure:														
Simple	1	9.00			7.08				3	8.33				
Classical						20	2.75		8	6.88				
Romantic	8	7.88			49.60	61	2.95		13	8.08		4	8.50	
Impressionistic						2	3.00		3	6.33				
Modern classical						1	2.00		1	6.00				
Modern popular	8	6.88			43.30	34	1.50		12	6.17				
Frequency of modulation	17		51.82	37.35		119		60.28	40		53.33	4		51.88

TABLE III (Concluded)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
RHYTHM														
Prominence of pulse	15		31.67	25.56		120		42.37	43		50.24	4		35.22
Variability of prom.	17		52.30	36.68		120		53.22	42		53.40	4		23.53
Var. of pattern	17		53.82	36.64		111		47.65	38		48.40	4		23.53
Complexity of rhythm	14		24.42	24.92		111		56.13	38		45.09	4		0.00
TYPE														
Severely classical						31	2.61		22	6.91		1	10.00	
Popular classical	5	7.60			31.40	29	3.10		2	8.00		1	9.00	
Semi-classical	5	8.00			33.05	30	3.00		6	8.66		2	7.50	
Hit Parade popular	5	6.80			28.09	8	1.25		6	7.16				
Connoisseur's pop.						22	1.32		6	4.66				
Country-western	1	9.00			7.43				1	5.00				
Novelty														
PERFORMANCE MEDIUM														
Solo:														
Female voice	2	6.00		16.66					3	6.33				
Male voice	4	7.14		40.27					5	6.60		1	8.00	
Piano	4	7.75		43.05		1	3.00		5	5.60		1	10.00	

Mu's Musical Preferences

Musical Background and Training

Participation in Music. Mu took eight years of grade school music, played for seven years in the school band, sang for four years in boys' glee club, three years in mixed chorus, and for two years participated in small vocal and instrumental ensembles. He indulged in no extra-curricular musical activities.

Family Musical History. The family had a positive attitude toward music. The only other performer in the family was a brother who played the cornet. The home contained a radio and piano, but no phonograph or recordings. Music was performed "fairly often" in the home.

Favorite Vocalist. Bing Crosby.

Favorite Instrumentalist. Jose Iturbi.

Rank Order of Preferred Types of Music. Light classical, severely classical, hymns, folk music, sweet popular, hillbilly, hot popular.

Outstanding Musical Experience. Mu attended a symphony orchestra concert while in high school in which a performance of Elgar's "Pomp and Circumstance" made a memorable impression on him.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Twenty-five cards were returned of which sixteen of the indicated compositions were found on recordings and analysed. Fifteen of the twenty-five were vocal solos or ensembles with large orchestra or dance band accompaniment. His comment showed that he liked "plain," singable, obvious melodies against a background of conventional harmonies. There was a strong valence for religious songs, and songs whose texts contained a serious philosophical or sentimental message. He disliked songs which were repetitious and had "stupid" words (Rag Mop, and I Can Dream, Can't I), or compositions which "lacked melody" (Chopin's Minute Waltz, Moonlight Serenade [sic]).

Five Preferred Recordings.

- (1) "Moonlight" Sonata - Beethoven
- (2) The Anvil Chorus - Verdi
- (3) The Lord's Prayer - Malotte (Como)
- (4) The Bells of St. Mary
- (5) Ave Maria (Composer not specified)

Keston Test of Musical Preference. Mu ranked fourth highest among the twelve subjects with a score of 73.80.

Interpretation of Musical Criteria Scores

Tone Color. A preponderance of large orchestral

ensembles which provided much bowed string, brass and woodwind color was in evidence. Variety in color seemed to be desired. Mu preferred an unusually large proportion of mixed choral music, considering the responses of the other subjects. Male choral and solo numbers were well liked. The female solo voice was rather indifferently rated.

Staccato-Legato. Preferred music was definitely at the legato end of the scale. There were virtually no examples of extremely staccato melody or accompaniment in either the Daily Log or the Five Preferred Recordings. This factor was sufficiently influencing that it appeared to affect the Keston and Forty-Eight Excerpts Tests scores as well.

Tempo. There appeared to be no consistent pattern with regard to tempo.

Sonance. A rather pronounced aversion for dissonance was observed.

Sedation-Stimulation. There was a slight preference for sedative music. Four of the Five Preferred Recordings were sedative and twenty-three of the twenty-five Daily Log items were sedative or mildly stimulative. This tended to be validated by the Keston and Forty-Eight Excerpts Tests results.

Dynamics. A wide variety of dynamics was usually preferred. Most of the free choices were judged to contain a loudness level from mf to ff. Most changes in dynamics were gradual rather than sudden.

Harmonic Structure. Simple harmonies were rated higher by Mu than by any other subject. Romantic harmonies were also highly rated. He was ambivalent toward pieces with impressionistic harmonies, disliked modern classical harmonies, and mildly liked popular harmonies.

Rhythm. With rare exceptions he chose music in which there was not a pronounced rhythmical pulse, although in many instances there were moderate fluctuations in prominence of pulse and variability of pattern. Simple rhythms and meters were preferred.

Formal Structure. Mu preferred homophonic compositions, the majority being in simple song-forms with regular and occasionally regular-irregular phrase structures.

Type. He preferred mostly popular classical and semi-classical music with a liberal sprinkling of Hit Parade popular. He was ambivalent toward severely classical and country-western music, and disliked connoisseur's popular intensely.

Performance Media. He liked the male solo voice and piano solos and exhibited a pronounced preference for mixed choral music. Instrumentally, he preferred large orchestral ensembles.

Summary Statement

Mu participated in most of the available school music activities through grade and high school. He grew up in a home environment which exhibited a positive attitude toward music. There was a strong religious element in his musical preferences. His preferences were characterized by easily grasped, legato melodies with, most often, legato backgrounds. He had a tendency to choose sedative music, and pieces with simple and conventional harmonies, also simple rhythms without a pronounced pulse. He preferred popular classical and semi-classical compositions and a few Hit Parade popular pieces. He disliked music which was dissonant, complex in rhythm and harmonic structure, heavily rhythmical, and which contained rapid, staccato, "unsingable" melodic patterns.

Pi's Personality

Overt Life-Plan

Pi wants to be a doctor in a small community, raise a family, and have enough income to provide security. At

home he was thoroughly disciplined and considered disobedience the worst sin; he felt punishment was deserved because he was aggressive. His family nurtured him in a cool, stable, unemotional way, providing a bulwark against the chaos of an environment which changed frequently because the family lived in a great many different places. The small community in which he hopes to practice medicine should, he believes, reinstate this stable structure.

Values

His main value is stability and adherence to established obligations and purposes in a legalistic contractual fashion rather than out of affective warmth. He is not aware that emotional warmth is what he seeks and what he is afraid of losing when he tries to find a firm obligatory type of friendship-tie. It never occurs to him to dependently rely on the other person's outgoing love.

He wants economic security to bolster his basic purpose of being able to offer enough to others, especially his children, so that they will accept him into close partnership. In the face of the conviction that he might be helpless in a potentially hostile world, he does not try to make the world less hostile and, in any case, would not believe that he could. Instead he tries to make himself less helpless, first, by entering into contractual

ties, and second, by being capable of taking care of himself. In terms of Spranger values he has made values central guide-lines for his life and has so fused and combined them that they cannot be rank-ordered intelligently.

He is quite interested in observing everything that happens as a global means of securing stimulation in a vicarious fashion, but such stimulation is not associated with any of his conscious values.

Medicine will, eventually, under the patient-doctor contract, yield him emotional warmth, but without entangling affective obligations on his part. His liking for solitary wandering seems to be an expression of autonomy in the above described sense of independence.

Temperamental Endowment

He seems to have a factual rather than a theoretical, intellectual approach. Because of his need to have objective knowledge of laws and conditions, he pays attention to them. When he is clearly dealing with imaginative material he freely indulges in a whimsical abstract sort of thought in which he selects just that part of the material which appeals to him and then makes it into something exciting and different.

In spite of his strong propensity for rules and limits he can appreciate and remember novel experiences

which fall beyond the usual conventions, i.e., he does not feel morally obliged to ignore unconventional acts. He enjoys bright color and realism of style in pictures, but prefers them to depict legendary romantic content. He seems to be predominantly anal-retentive in character structure.

Covert Structure

Pi feels the environment requires him to fulfil certain imposed expectations which he considers to be monotonous. This leads him into a super-ego conflict between all the "wild cat" activities that mean play for a college student, and study. He lacks a whole cluster of needs which give satisfaction to most people, such as dominance, exhibition, recognition, and exposition. To him, all aggression and autonomy are fundamentally asocial.

Despite all these prohibitions on himself he manages to gain affective stimulation in sufficient quantities to keep from "drying up," probably by voyeuristic enjoyment of others' activities and escapades, by indulging in fantasies, and in contemplation of his future as a doctor. The intensity of such stimulation is quite high.

Though he readily defers to others, and feels himself physically and socially small, he nonetheless feels within himself a solid core, and has a realistic assessment

of his own power. He sets limits on how far he can be bullied or pushed, willingly complying up to a crucial point where he feels his integrity and self-esteem are being violated.

Conflicts

His main intra-psychic conflict seems to revolve around his genuine and temperamentally based sensitivity to everything exciting in the environment. Environmentally he is in conflict because he hungers for warm affective attachments and the path he has set for himself will not lead to this, but he does not know it. Furthermore, at the present time his gratifications are deferred because he is not sure he will be admitted to medical school, in which case he will be forced to abandon the only plan of which he can conceive which will secure for him that which he wants. Keen academic competition for admittance to medical school means current deprivations and induces acute anxieties.

Assessment

Others probably see him as shy, socially negligible, socially correct - perhaps even over-correct for a member of a college population. The psychologist sees him as having selected an occupation which fits his melange of

needs. Despite his overt shell and his withdrawing defenses, the fact that he keeps his capacity to watch, register, and enjoy the rich stimuli provided by the environment prevents him from becoming a repressed neurotic. Even so, he has not found modes and mechanisms for achieving warm social integration. He is still an outsider looking in.

Pi's Musical Preferences

Musical Background and Training

Participation in Music. In addition to participation in the usual eight years of compulsory grade school music Pi played for three years in his high school band and for two years was a member of a small instrumental ensemble. He played four brass instruments and for a brief period studied the clarinet. His only participation in vocal music was as a member of the boys' glee club for one year. He also played in a 4-H Club orchestra.

Family Musical History. All of the members of a rather large family except the father played one or several instruments and most of them sang. Music was often performed in the home which contained a radio, phonograph, and piano.

Favorite Vocalist. Al Jolson.

TABLE IV

PI'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log				Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N* AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR													
Piano	1	7.00		3.25	19	2.89		11	6.36		1	9.00	
Plucked strings	2	9.50		7.49	25	2.64		8	7.13				
Bowed strings	3	9.67		12.37	91	2.40		24	6.79		1	8.00	
Brass	7	7.57		22.80	94	2.43		22	6.68		1	8.00	
Woodwind	7	7.57		22.47	107	2.48		26	7.42		1	8.00	
Female solo voice	2	7.00		6.51				4	6.75				
Male solo voice	1	7.00		3.25				5	6.80				
Female vocal ens.								1	6.00				
Male vocal ens.								3	7.67				
Mixed choral ens.													
Guitar													
Percussion	7	7.57		21.82	1	4.00		3	8.00		1	8.00	
					73	2.64		12	6.50				
STACCATO-LEGATO													
Prime melody	10		45.19	32.61	114		52.18	47		54.40	2		49.03
Background	10		63.45	24.81	114		51.33	48		61.06	2		82.35
Total effect	10		49.43	41.23	114		53.78	48		61.35	2		49.03

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
 PS = Per cent Score.

TABLE IV (Continued)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TEMPO																
Predominant tempo	10		46.27	39.96		120		50.06	47		55.63	2		52.94		
Frequency of change	10		27.77	24.69		119		55.23	47		51.55	2		100.00		
SEDATION-STIMULATION																
Overall degree S-S	10		46.78	39.24		120		51.56	46		57.53	2		50.00		
Frequency of change	10		25.28	25.02		120		53.20				2		47.06		
DYNAMICS																
Predominant level	10		73.78	24.94		102		53.78	38		57.16	1		50.00		
Frequency of change	10		53.17	38.88		118		47.63	47		47.40	2		100.00		
HARMONIC STRUCTURE																
Chord structure:																
Simple									6		7.50					
Classical						20	2.10		9		8.22					
Romantic					12.19	61	2.59		14		6.93	1	9.00			
Impressionistic	1	10.00				2	2.50		3		4.66					
Modern classical						1	2.00		1		9.00					
Modern popular	9	8.00			87.81	34	2.65		13		7.00	1	8.00			
Frequency of modulation	10		28.22	24.59		120		48.72	47		50.64	2		50.00		

TABLE IV (Concluded)

Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
CRITERION	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI	
RHYTHM															
Prominence of pulse	10		48.14	16.35		120		52.13	48		57.29	2		66.67	
Variability of prom.	10		27.33	25.02		120		36.70	41		49.65	2		73.52	
Var. of pattern	10		26.82	24.87		111		35.75	42		47.99	2		23.53	
Complexity of rhythm	10		27.77	24.69		111		41.86	43		48.64	2		26.47	
TYPE															
Severely classical	1	10.00			12.19	31	1.87		24	6.54					
Popular classical						29	2.59		3	7.67		1	9.00		
Semi-classical	2	9.50			23.17	30	2.93		7	7.00		1	8.00		
Hit Parade popular	4	7.75			37.80	8	2.50		6	7.00					
Connoisseur's pop.	3	7.14			26.82	22	2.68		6	5.67					
Country-western									2	8.50					
Novelty															
PERFORMANCE MEDIUM															
Solo:															
Female voice	1	7.00			50.00				4	6.75					
Male voice									5	6.80					
Piano						1	4.00		6	7.50		1	9.00		

Favorite Instrumentalist. Harry James.

Rank Order of Preferred Types of Music. Light classical, sweet popular, hot popular, hillbilly, severely classical, folk music, hymns.

Outstanding Musical Experience. Pi was most impressed when, as a high school student, he heard for the first time a "live" symphony orchestra concert.

Record Library. His record library contained approximately ten albums which were all of semi-classical or Hit Parade popular type.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Pi turned in twenty-seven cards of which ten were descriptive of music heard in "live" concerts. All but seven were descriptive of instrumental music, usually performed by large orchestras. Of the seven containing vocal music three were rated at the indifferent or slightly disliked level. Pi's comments showed that he liked large instrumental groups, contrasts in dynamics, and, above all, extreme clarity in melodic, harmonic, and rhythmical structure. A wide range of musical types was represented in the cards.

Five Preferred Recordings.

- (1) Rhapsody in Blue - Gershwin
 - (2) Minute Waltz - Chopin
 - (3) "On the Trail" from Grand Canyon Suite - Grofe.
- (Pi did not list a fourth and fifth choice.)

Keston Test of Musical Preference. Pi made a score of 119.38 to rank ninth highest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. Since Pi chose to listen to large orchestral ensembles in preference to vocal ensembles or solos of any sort, there did not appear to be any one tone color which was preferred, although plucked strings, the guitar, and the piano were consistently rated high. Only a very few voices appealed to him.

Staccato-Legato. Although Pi liked certain smoothly flowing, rather non-rhythmical pieces he showed a definite preference for staccato melodies with very staccato backgrounds.

Tempo. Here, too, there was a wide choice, but the majority were classified as allegro-presto.

Sedation-Stimulation. The majority were mildly stimulative to stimulative.

Dynamics. There were wide fluctuations in dynamics in most of Pi's choices, but the majority were classified at the loud end of the range.

Harmonic Structure. Pi liked pieces which had a romantic, modern popular, or classical chord structure, although the latter did not appear in his free choices. He disliked impressionistic music.

Rhythm. All free choices but one contained pronounced rhythms. His preference for a strong, rather simple and unvarying rhythmical pulse was corroborated by the Keston and Forty-Eight Excerpts tests.

Formal Structure. Pi's choices were characterized as being homophonic, of regular phrase structure, simple in form, and containing much repetition.

Type. Type did not seem to be, as was true in nearly all other cases, a prime determinant of Pi's preferences. Most of his choices were semi-classical and popular. Although he did not choose country-western often, he rated it high. He was ambivalent toward severely classical music, rating it negatively as often as positively.

Performance Media. Nearly all of Pi's choices were performed by large ensembles - most of them orchestral. Solos rarely appealed to him, although he consistently rated piano solos high.

Summary Statements

Pi lived in a musical home environment and showed much interest in instrumental music in high school. His preferences indicated a wide range of musical types though most were semi-classical and popular. He preferred music which had a pronounced rhythmical pulse, was rather staccato, stimulative, fast, rather loud, repetitive, and of simple form and phrase structure.

Rho's Personality

Overt Life-Plan

Rho says she wants to work in a nursery school or child clinic, but it is apparent she would much prefer to get married and raise a family. Her ideal husband would be intelligent, kind, understanding, fun-loving, and religious. This picture may be an amalgam of both father and grandfather. The latter was specified as being particularly affectionate and indulgent.

Values

In Spranger's terms the religious value is dominant. The social value ranks second, aesthetic third, theoretical fourth, political and economic last. Contentment and peace and harmony are the main values which spark the rest. No

specific origin for this set of values can be found, but probably she was severely inhibited with respect to expression of aggression as a child. Interest in music, dancing, and clothes fuse social and religious values with the aesthetic value.

Temperamental Endowment

Her intelligence is superior, with better verbal skill than visual-motor discrimination. Although her capacity for abstract thinking is good, she stays on a somewhat superficial level. In response to her mother's pressure toward academic achievement she learns what is expected and customary, and pays attention to what is proper rather than being open to rich experiences. Stereotypy is the primary result.

While she has fundamental oral cravings, they are unsatisfied and she has developed a set of anal-retentive mechanisms to keep what she has. However, these mechanisms are backed by the force of her retentive mother, hence are disliked. Thus, while she is predominantly oral, she has adopted the anal mechanisms foisted on her, but without enthusiasm, and she looks back longingly to the oral, lost paradise as represented by the indulgent family males.

Covert Structure

She seems to be genuinely low in needs for achievement, acquisition, recognition, and construction, i.e., the outgoing, aspiring needs. Her real strivings revolve around her social life. She wants recreation with groups of friends but she feels she is unattractive and is sure she cannot compete for men with the other girls.

Another consequence of her need for social interaction is that she finds herself, to her surprise, lured from the group by her duty to a friend. Covertly, this is a subtle repetition of masculine rejection and she capitulates, placing her friend's (rival's, perhaps mother-figure's) welfare above her affiliative needs. This is done, however, with such reluctance that she has vivid aggression fantasies. Despite these fantasies and perhaps with some guilt because of them, she does her duty of nurturing the friend. Covertly, there is a firm conviction that she is unlovable and the last to be chosen in any competition.

Her super-ego or moral code is taken over without thought from the culture within which she has been reared and she is rigidly bound by it. She has no ego-ideal distinguishable from this code, hence no overt rebellion against any of the social mores.

Sex and aggression are closely linked as cause and effect, and both are forbidden. Thus the only mechanism she has for meeting frustration is to plead for consideration, help, and forgiveness, presumably for having committed the sin of being frustrated. This reinstates the frustrating situation rather than leading to any readjustment of the circumstances. As a result her ego is actually weak since she cannot find socially acceptable outlets for her needs and impulses. However, although she does not know how to get what she wants, her goals are fairly clear, and in this sense her personality has a certain brittle consistency.

Conflicts

Rho seems to have no overt conflicts with the environment. Psychologically she is caught between obligations as defined by her super-ego and her emotional needs. Her relative freedom from active conflicts partly stems from her lack of drive, and partly expresses the fact that, for her, either alternative would be worse than her present state of suspended animation.

Assessment

Others would probably see her as quiet, inoffensive, intelligent, proper, religious, conscientious, and

lacking in drive. To the psychologist it appears that she does not get much need-gratification because of over-rigidity. There seems to be no acute threat of psychosis, or even of severe neurotic symptoms despite the general neurotic structure. If she is subjected to severe stress and adopts any neurotic symptoms, these are likely to take the form of some sort of illness, perhaps psychosomatic.

Rho's Musical Preferences

Musical Background and Training

Participation in Music. In addition to eight years of grade school music Rho played a woodwind instrument for seven years in school bands, two years in a small ensemble, sang for four years in girls' glee club and mixed chorus and played piano well enough to accompany the boys' glee club. She also played and sang for church services.

Family Musical History. Her parents' attitude toward music was positive and music was performed in the home "fairly often." The mother played the piano. There was a radio in the home.

Favorite Vocalist. Bing Crosby.

Favorite Instrumentalist. Artur Rubinstein.

Rank Order of Preferred Types of Music. Severely

TABLE V

RHO'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log			Keston Test			Forty-eight Excerpts			Five Preferred Recordings				
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR														
Piano	3	7.00			7.38	19	2.00		9	5.00		4	8.25	
Plucked strings	1	9.00			2.63	25	2.52		7	4.43				
Bowed strings	6	8.33			16.88	91	2.87		23	6.91		3	7.33	
Brass	9	7.77			34.82	94	2.43		21	5.19		3	7.33	
Woodwind	9	7.77			34.82	107	2.47		25	6.00		3	7.33	
Female solo voice									3	5.33				
Male solo voice	2	6.50			5.01				5	5.80				
Female vocal ens.	1	8.00			2.63				1	8.00				
Male vocal ens.									2	8.00		1	8.00	
Mixed choral ens.														
Guitar	1	5.00			1.58	1	1.00		3	2.00				
Percussion	7	7.86			16.88	73	2.31		11	6.00		2	6.50	
STACCATO-LEGATO														
Prime melody	8		31.12	24.53		114		48.93	44		45.19	3		14.80
Background	8		30.80	25.29		114		43.83	44		45.83	4		48.94
Total effect	8		30.50	25.12		114		46.04	44		44.84	4		49.33

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
 PS = Per cent Score.

TABLE V (Continued)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TEMPO																
Predominant tempo	8		45.52	34.27		120		48.64	44		49.58	4		46.15		
Frequency of change	9		52.29	36.95		119		55.44	44		55.26	5		45.27		
SEDATION-STIMULATION																
Overall degree S-S	9		47.95	38.81		120		50.12	44		46.50	5		22.33		
Frequency of change	9		52.74	38.67		120		38.92				5		41.66		
DYNAMICS																
Predominant level	5		45.67	38.23		102		53.26	35		47.56	3		50.00		
Frequency of change	9		73.55	24.94		118		56.82	44		53.23	5		73.71		
HARMONIC STRUCTURE																
Chord structure:																
Simple									3	4.67						
Classical	1	7.00			10.00	20	3.05		9	6.22		1	10.00			
Romantic	2	9.50			27.14	61	2.95		14	6.29		3	7.67			
Impressionistic	1	9.00			12.85	2	2.00		3	7.67						
Modern classical	1	9.00			12.85	1	4.00		1	4.00						
Modern popular	4	6.50			37.14	34	1.44		12	5.08		1	7.00			
Frequency of modulation	9		51.10	38.45		120		60.71	44		48.06	5		73.71		

TABLE V (Concluded)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
RHYTHM																
Prominence of pulse	8		48.42	23.08		120		39.04	44		43.24	5		33.33		
Variability of prom.	9		51.93	38.60		120		46.85	42		36.50	5		41.66		
Var. of pattern	8		57.14	32.81		111		47.94	40		42.00	5		44.56		
Complexity of rhythm	8		48.38	36.78		111		50.55	40		45.52	5		26.28		
TYPE																
Severely classical	2	8.50			24.28	31	3.13		23	6.82		4	8.25			
Popular classical	2	9.00			25.71	29	2.86		3	7.00						
Semi-classical	2	7.50			31.42	30	2.67		6	6.00						
Hit Parade popular	1	8.00			11.42	8	1.62		6	6.17		1	7.00			
Connoisseur's pop.	2	6.00			17.14	22	1.23		4	3.50						
Country-western									2	2.00						
Novelty																
PERFORMANCE MEDIUM																
Solo:																
Female voice									3	5.33						
Male voice	2	6.50			44.82				5	5.80						
Piano	2	8.00			55.18	1	2.00		5	6.40		4	8.25			

classical, light classical, sweet popular, hymns, hot popular, folk music, hillbilly.

Outstanding Musical Experience. Rho heard an all-Bach concert of organ music performed by a renowned artist.

Record Library. The home contained no phonograph and Rho possessed no record library.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Rho returned thirty-one cards. Of these, six were vocal (three of which were rated negatively) and the others were large orchestral selections. Nearly all of her choices were classified as severely classical or popular classical. Piano music, particularly the concerto, held much appeal for her. The comments which appeared on the cards were not very explicit regarding what features of the music she thought were especially affective. She listed melody, harmony, rhythm, changes in tempo, and instrumentation - in that order - as those features which appealed most. Her dislikes were more explicit; she disliked certain vocal qualities, music which lacked clear-cut melodies (she comments that the Paganini D Major Concerto has "too much technique" and "not enough melody"), and "corny" instrumentation and "exaggerated rhythms" found in country-western music.

Five Preferred Recordings.

- (1) Jesu, Joy of Man's Desiring - Bach-Hess
- (2) Second Piano Concerto - Rachmaninoff
- (3) Fantasie Impromptu - Chopin
- (4) You'll Never Walk Alone - Waring arrangement
- (5) Concerto in A Minor for Piano and Orchestra - Grieg

Keston Test of Musical Preference. Rho made a score of 62.57 to rank third highest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. Her choices indicated that she much preferred bowed string and piano colors. Even though much of this was heard through the medium of the symphony orchestra where string tone is very prominent she preferred it over brass and woodwind tone colors which also are prominent. She tended to rate percussion tone color considerably below either string, woodwind or brass tone color. The piano was much liked as a solo instrument. She rated vocal solos lower, although still positively, than any of the other subjects. The guitar was heartily disliked, even when classical music was performed on it.

Staccato-Legato. A few of Rho's preferences showed a wide variation with regard to staccato-legato but most indicated a definite tendency toward legato - more so than any other subject.

Tempo. The majority were classified as moderato and more were classified as lento-andante than allegro-presto. Many of those compositions highly rated were quite changeable in tempo.

Sedation-Stimulation. Although the variation was wide there was a slight tendency toward a preference for sedative music.

Dynamics. There was much variability in dynamics but the majority of Rho's preferences ranged from pp to mf.

Harmonic Structure. Romantic, impressionistic, and classical chord structure was rated high. She usually liked pieces which had modern classical harmonies, and only occasionally liked those which had popular harmonies. She disliked pieces with simple harmonies.

Rhythm. Only a few of Rho's preferences could be classified as having pronounced rhythms. Nearly all of her choices contained rhythmical pulses which were "hardly apparent" or "apparent." These were characterized by a moderate amount of variability in pattern and complexity.

Formal Structure. Her free choices were characterized by much repetition of melodic ideas and many had regular-irregular as well as regular phrases. Although

nearly all of her free choices were homophonic she professed to like polyphonic music very much - especially the music of Bach. A large proportion of her choices had been written in the larger forms and in many cases were quite complex. She was one of only a few of the subjects who listened to and rated highly, abstract as well as programmatic compositions.

Type. Rho decidedly liked nearly all severely classical and popular classical music. Most semi-classical, and a little Hit Parade popular music was rated somewhat lower. She disliked connoisseur's popular and country-western music.

Performance Media. Nearly all of her choices were performed by the large orchestra, or solo piano and orchestra. She rated vocal ensembles high but did not choose them in her daily listening.

Summary Statement

Rho liked nearly all classical music of all schools of composition and generally disliked sophisticated popular and country-western music. She liked the sound of the solo piano and particularly the bowed string tone of the symphony orchestra. Her preferences were characterized as being definitely legato, slow or moderately slow in tempo,

slightly sedative, generally lacking in a strong percussive rhythmical pulse, and more often soft or moderately loud than loud. Compared to the other subjects she showed an unusual liking for compositions written in the larger forms though the melodic ideas had to be clear-cut and repetitive enough to make such music understandable to her.

Sigma's Personality

Overt Life-Plan

Sigma wants to graduate with a degree in business, work in a men's clothing store as a salesman, and eventually own his own business. The present status of this ambition is a global failure. He wants to be integrated with a family, but he never says that he wants to start one.

Values

In rank order his Spranger values are: social, economic, political, aesthetic, religious, and theoretical. He wants to escape his own minority culture and climb to what he perceives as a higher culture. This is almost an overt striving as well as a value. His economic, political, and aesthetic values are blended as part of "the wider life" he sees as representative of the culture to which he aspires. He values recognition and admiration, refinement

and lack of rowdyism, and physical comfort - especially warmth.

His interests often serve aesthetic display, e.g., a "flashy" car and fine clothes. Music serves both an autonomous sentience and cultural acceptability while his record collection serves his need for luxurious expense.

Temperamental Endowment

Sigma's intelligence is slightly below that of the average college student's. His verbal ability is higher than his performance capacity and chiefly shows itself in a verbal knowledge of social structure and conventions. His approach toward creative efforts is one of constriction in the sense of good middle class tastes. He blocks sensual, sexual, and aggressive urges.

In pictures he prefers color, drama, and exciting stories which depict young love and fires. He prefers a picture content which is mystical or romanticized rather than realistic.

Covert Structure

Basically, Sigma wants recognition by attracting attention through exhibition. This is the key to his almost compulsive attention to his dress and language, which invariably are imposing. Though he would like recognition

for intellectual achievements, he fears failure, and in fact, often does fail. He feels also that he is at the mercy of aggression from society which might cause him to lose his beloved self and to fail even beyond the failure produced by his own lack of competence.

He fears physical incapacitation and is almost hypochondriacal. This bodily anxiety is undoubtedly rooted in sexual anxiety, stemming from his severe denial and repression of all sex urges to the point of disowning them.

Indirectly, through passive submission to domination, he gets the recognition he craves in a masochistic form, i.e., by being manipulated and used by someone else, he himself is thrust into the limelight, even if cast in the role of victim. However, he is unaware of this indirect satisfaction of his most basic need.

In terms of personal history, everything is globalized, summarized, distanced and repressed. His constriction has, in the first place, restricted the vividness of his awareness of his life, and, in the second place, he has repressed all but the bare events. His sensual needs are partially sublimated in aesthetic channels of music and dress. The compulsive care with which he dresses provides a species of sentient pleasure of an orderly sort.

Conflicts

Sigma has a fundamental conflict between his need to dominate and be recognized, and his need to defer and comply with authority. All his active needs for excitement conflict with the super-ego prohibition against spontaneity, but not seriously, because of their low strength. His environmental conflicts are common to those of his ethnological group.

Assessment

At the time this man was interviewed he was passive - affectively and motivationally, over-controlled, conventional, and bent on meeting the standards of the majority ethnological group of which he is not a member. He has no great spontaneity and is blocking what little he has.

He is operating with obsessive-compulsive modes of behavior. Underlying this he has hysteroid repressions and sufficient occupation with bodily complaints to make a conversion reaction tempting.

Some of his tendencies are fundamentally schizoid while his feminine attitudes are conducive to adopting a passive parasitic adjustment. No overt paranoid schizophrenia is present, however, though the personality structure is fertile soil for developing it.

TABLE VI

SIGMA'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR														
Piano	4	8.00			5.46	19	2.63		11	8.91				
Plucked strings	4	8.00			5.46	25	2.32		8	8.63		1	8.00	
Bowed strings	6	8.33			8.87	91	2.34		24	8.33		3	8.67	
Brass	13	7.69			16.39	94	2.63		22	8.59		3	8.67	
Woodwind	14	8.43			20.49	107	2.53		26	8.54		4	8.50	
Female solo voice	8	7.50			11.47				4	9.50		1	10.00	
Male solo voice	6	7.00			8.06				5	8.60				
Female vocal ens.	1	8.00			1.50				1	8.00				
Male vocal ens.	1	6.00			1.09				2	7.50				
Mixed choral ens.	2	8.50			3.00									
Guitar	1	9.00			1.36	1	4.00		3	8.00		1	8.00	
Percussion	14	7.33			16.80	73	2.65		12	8.67		3	8.67	
STACCATO-LEGATO														
Prime melody	17		42.29	29.58		114		48.21	47		50.18	4		51.98
Background	17		65.34	25.13		114		52.30	47		50.59	4		85.43
Total effect	17		48.55	36.09		114		50.95	47		50.60	4		51.98

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range, PS = Per cent Score.

TABLE VI (Continued)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
TEMPO														
Predominant tempo	16		47.85	35.93		120		51.61	47		49.52	4		22.22
Frequency of change	17		49.69	37.67		119		53.05	47		51.54	4		55.55
SEDATION-STIMULATION														
Overall degree S-S	17		44.75	35.14		120		52.46	47		49.51	4		50.00
Frequency of change	17		49.72	38.24		120		58.62				4		21.87
DYNAMICS														
Predominant level	16		74.50	25.00		102		55.04	38		49.80	4		73.52
Frequency of change	16		52.15	36.06		118		45.91	44		50.00	4		52.22
HARMONIC STRUCTURE														
Chord structure:														
Simple														
Classical						20	2.60		3	8.00				
Romantic	7	8.14			42.85	61	2.29		9	8.11				
Impressionistic						2	2.50		15	8.33		3	8.67	
Modern classical						1	1.00		3	9.00				
Modern popular	10	7.60			57.15	34	3.02		1	9.00				
									13	8.77		1	8.00	
Frequency of modulation	17		26.23	24.91		120		43.95	46		46.70	4		50.00

TABLE VI (Concluded)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
RHYTHM														
Prominence of pulse	17		31.46	25.29		120		51.06	47		49.44	4		50.67
Variability of prom.	17		50.00	38.66		120		53.17	43		50.96	4		0.00
Var. of pattern	17		49.70	38.29		111		57.73	41		50.37	4		0.00
Complexity of rhythm	15		47.70	36.57		111		52.79	40		50.95	4		0.00
TYPE														
Severely classical	2	8.00			12.00	31	2.58		24	8.42				
Popular classical	3	7.67			17.29	29	2.79		3	8.33		2	9.50	
Semi-classical	2	9.00			13.53	30	2.30		6	8.00		1	7.00	
Hit Parade popular	3	7.67			17.29	8	2.87		6	9.00				
Connoisseur's pop.	7	7.57			39.84	22	3.18		6	9.00		1	8.00	
Country-western									2	8.00				
Novelty														
PERFORMANCE MEDIUM														
Solo:														
Female voice	6	7.67			68.65				4	9.50		1	10.00	
Male voice	3	7.00			31.34				5	8.60		1	9.00	
Piano						1	3.00		6	9.17				

Sigma's Musical Preferences

Musical Background and Training

Participation in Music. Sigma's musical background was quite meager. His only experience in school music was singing in a high school mixed chorus for two years. For a short period he sang in a church junior choir. He has had no training on any instrument.

Family Musical History. Music was hardly ever performed in the home although it afforded a piano. The father sang a little and played the cornet. The attitude of the parents toward Sigma's musical training was negative.

Favorite Vocalist. Gladys Swarthout.

Favorite Instrumentalist. Jascha Heifetz.

Rank Order of Preferred Types of Music. Not popular, sweet popular, hymns, light classical, folk music, severely classical, hillbilly.

Outstanding Musical Experience. Sigma heard a concert by a famous female opera star.

Record Library. His library contained more than fifty recordings. Of these, thirty were vocal recordings, sixteen were classical, nine were semi-classical, and

twenty-eight were popular (mostly connoisseur's popular). His collection covered an unusually wide range of aesthetic styles. Nearly all of the severely classical pieces were recordings of opera arias and art songs, usually performed by a female singer. The instrumental works were, almost without exception, richly rhythmical and colorful.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Sigma turned in twenty-seven cards of which nineteen were vocals and five were heard in live concerts. Classified according to type they covered a wide range, divided about evenly between popular and classical music. His comment indicated that he liked genuineness of feeling in musical performance and disliked "faked" styles and "wrong" tempi. He also liked rich tone colors and rhythms. The meaning of the words in music was important to him.

Five Preferred Recordings.

- (1) Habanera from Carmen - Bizet (Gladys Swarthout)
- (2) Opus in Pastels - Kenton
- (3) Song of the Toreador from Carmen - Bizet (Merrill)
- (4) Jalousie - Gade (Performed by Boston Pops)
- (5) The Lord Will Make a Way - Dorsey (Sung by Juanita Jackson)

Keston Test of Musical Preference. Sigma's score

was 115.26 which ranked him seventh highest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. Brass, woodwind, percussion and the solo female voice accounted for approximately two-thirds of the tone colors present in Sigma's choices. He also listened to and rated highly, choral ensembles of many types. Wind instrument tone colors seemed to be more preferred than string instrument colors except guitar, which was consistently rated high. The instrumentation of the larger portion of the music was notable for its unusual voicing and color.

Staccato-Legato. The melodies ranged from extreme staccato to extreme legato but in the majority of cases were heard over a decidedly staccato background.

Tempo. Nothing of significance appeared regarding tempo, although most of Sigma's free choices had a tempo of moderato or slower. There was a moderate amount of variation in tempo.

Sedation-Stimulation. There were no strong tendencies toward either extreme. Most of the free choices were classified as mildly stimulative.

Dynamics. Most of the music ranged between mf and ff. This was especially true of Sigma's free choices. There was a moderate amount of variability.

Harmonic Structure. Sigma's free choices were all classified as having a modern popular or romantic chordal structure. However, in the Keston and Forty-Eight Excerpts Test results there appeared to be no noteworthy differences of preference for any of the chordal structures represented.

Rhythm. When classified according to prominence of pulse, variability of this prominence, and pattern, Sigma's test results showed no marked tendencies. His free as well as forced choices showed variety in their rhythmical treatment.

Formal Structure. All free choices were homophonic, with mostly regular phrases, in simple song forms, and were almost exclusively programmatic. There was much repetition of phrases.

Type. Sigma was one of the few subjects for whom type did not appear to be a prime determinant of musical preferences. He chose widely among all types except country-western and novelty. A sophisticated popular music lover would probably consider him discriminating in his choices of this type of music. His classical preferences were, in the majority, popular classics.

Performance Media. Here again Sigma showed a wide range of preferences, but he seemed especially attracted to the female solo voice.

Summary Statement

Color tended to be the predominant consideration in Sigma's choices. He was sensitive to styles of performance, liking widely divergent styles, but also being quick to detect and react against poor interpretations of these styles. Wind instruments, percussion (i.e., as part of the background) and voices, particularly the female voice, strongly appealed to him. His preferences were rather uncomplex and conventional as far as musical form was concerned. Most of his free choices maintained a rather loud dynamic level, although there was a moderate amount of variability.

Tau's Personality

Overt Life Plan

Tau's ambition is to "get to be a big man" and to "follow in his father's footsteps." He wants to go into a business, expand it into a big corporation, and then be free to leave whenever he pleases on hunting and fishing vacations with a few friends. Apparently his main conscious ambition is to be what he says his parents are, namely,

well-known and liked, consequently important.

Values

Most important to Tau is social and economic achievement of awards and recognition. The vulgar and cheap would normally be rejected, but would be tolerated if they were inescapable in his progress toward social position. Health is important to him. A clean, simple, outdoor nature, he feels, is wholesome and a refuge from the struggle and social pressure involved in getting to be a "big man."

In order of importance his Spranger values are: political, social, economic, aesthetic, religious, and theoretical.

Tau's interests are largely utilitarian, e.g., the "right" political party, a beautiful, intelligent wife, handsome family, interest in sports, good grades, fraternal ties, and leadership in approved and popular community enterprises, would all serve to help him become a "big man."

Temperamental Endowment

Tau is especially good in both motor coordination and speed. His full scale intelligence quotient is very superior, but his use of verbal concepts is undeveloped. His most creative and most efficient thought process is

theoretical-integrative of the sort found in executives rather than the sort found in artists. He makes rich creative use of the practical material at hand.

He has a good capacity to integrate his life and find reality-outlets for his needs. His memories show that he is receptive to all sorts of stimulating experiences. He seems to be egocentric and immature in that he cares deeply that others should like him while he does not truly like others unless they are sources of help. His moral code has been adopted with little critical thought; if society changed its views, so would he.

He is physically and temperamentally endowed with the necessary attributes to carry through his pose of the typical outdoor American boy and future solid citizen, though this pose is forced and in reality is an escape from underlying forbidden urges, acting as a means of allaying his anxieties and fears.

Covert Structure

Tau sees his parents' ideals for him as more than he can achieve. Matching his parents' achievements, rather than surpassing them, is his current need. His overt need to be friendly is motivated by an intense fear of losing love, a conviction that he cannot replace friends and family with other ties if he should lose them, and a belief

that he would be helpless to achieve without their loving support. At the same time he has an intense need for personal exhibition and recognition. He is just beginning to feel the need to break away from the domination of the father.

Creative thought and attempts to influence others are not used as ways to meet his social problems. He has the necessary creative ability, but his verbal skill is low. Most serious of all, he doesn't seem to realize that he might win affection and approval by helping others. He has not discovered any social outlet for the two great forbidden needs of our culture, namely, sex and aggression. He is apparently not interested in aesthetic outlets as such, and so cannot use these as sublimations for his sexual and aggressive urges.

Unconsciously, he sees himself as physically and socially inadequate, deprived, coerced, unable to win friends of his own, in danger of being rejected for self-assertion, and under critical scrutiny, but nurtured when he complies.

Conflicts

He has no foundation for self-respect and attempts to substitute respect from others. He wants affection and needs to be important, but has nothing to make himself

important. He wants to break away from parental control and wants exciting stimuli, but is afraid he cannot cope with the resulting loss of loving support. He has no pressing environmental problems by grace of the protection of his fraternity.

Assessment

Most of his abilities could be put to use and most of his needs satisfied if he were a junior executive or a young political candidate with a machine to back him. To the psychologist he appears to be incurring anxiety, tension, and real conflict, since he chooses to follow the dictates of society at all costs. He is, in reality, somewhat timid and his friendliness is somewhat compulsive and indiscriminate. He pays a heavy price for social support, namely, the price of self-direction as a source of self-respect.

Tau's Musical Preferences

Musical Background and Training

Participation in Music. Other than six years of compulsory grade school music Tau had participated in no musical activities, in or out of school.

Family Musical History. The parents' attitude

TABLE VII

TAU'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR														
Piano	4	7.75			4.27	19	2.89		8	5.50				
Plucked strings	4	7.75			4.27	25	2.60		7	6.29		2	8.00	
Bowed strings	6	6.83			5.96	91	2.24		17	6.24		1	7.00	
Brass	18	7.11			17.66	94	2.55		19	6.79		4	8.50	
Woodwind	18	7.11			18.22	107	2.51		22	6.68		4	8.50	
Female solo voice	8	7.00			8.99				4	5.50				
Male solo voice	7	7.00			7.87				5	6.60				
Female vocal ens.	1	5.00			0.78									
Male vocal ens.	3	7.33			3.26				3	5.67		1	8.00	
Mixed choral ens.	3	8.00			3.12							1	8.00	
Guitar	6	7.50			6.41	1	3.00		2	7.00				
Percussion	16	7.25			16.31	73	2.80		11	6.91		3	9.00	
STACCATO-LEGATO														
Prime melody	20		34.49	25.56		114		52.65	37		50.55	4		81.25
Background	20		67.76	25.44		114		54.03	37		52.75	4		84.00
Total effect	19		50.82	16.62		114		54.25	37		52.09	4		81.25

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range, PS = Per cent Score.

TABLE VII (Continued)

CRITERION	Daily Log				Keston Test			Forty-eight Excerpts			Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
TEMPO														
Predominant tempo	19		51.75	38.77		120		53.07	37		50.89	4		72.05
Frequency of change	20		48.00	37.24		119		52.74	37		48.33	4		47.99
SEDATION-STIMULATION														
Overall degree S-S	20		52.25	37.87		120		52.62	37		50.79	4		50.00
Frequency of change	20		52.05	37.70		120		58.75				4		0.00
DYNAMICS														
Predominant level	18		75.61	24.99		102		63.07	31		50.96	4		75.00
Frequency of change	20		48.84	37.68		118		44.98	37		47.36	4		49.01
HARMONIC STRUCTURE														
Chord structure:														
Simple									4	6.50				
Classical						20	2.10		5	5.20				
Romantic						61	2.14		12	5.67				
Impressionistic						2	2.00							
Modern classical						1	3.00							
Modern popular	19	7.21			95.13	34	3.52		13	7.22		4	8.50	
Frequency of modulation	20		51.94	38.00		120		41.94	36		23.37	4		24.03

TABLE VII (Concluded)

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
RHYTHM														
Prominence of pulse	19		68.15	25.08		120		60.22	37		50.36	4		83.99
Variability of prom.	20		51.82	38.39		120		56.16	35		48.98	4		47.99
Var. of pattern	20		46.85	36.07		111		56.73	33		47.62	4		46.93
Complexity of rhythm	19		26.35	24.90		111		35.83	33		49.97	4		0.00
TYPE														
Severely classical						31	1.87		14	5.21				
Popular classical						29	1.62		2	6.00				
Semi-classical	2	6.50			9.02	30	2.70		7	6.86		1	7.00	
Hit Parade popular	13	7.15			64.58	8	3.50		6	7.50		2	9.50	
Connoisseur's pop.	3	7.33			15.27	22	3.59		6	6.50				
Country-western									2	7.00		1	8.00	
Novelty	2	8.00			11.11									
PERFORMANCE MEDIUM														
Solo:														
Female voice	6	6.83			46.06				4	5.75				
Male voice	7	6.86			53.94				5	6.60				
Piano						1	4.00		3	6.00				

toward Tau's musical training was indifferent. Music was hardly ever performed in the home, even though the father sang a little and the mother had played the piano. The home contained a radio and phonograph.

Favorite Vocalist. Bing Crosby.

Favorite Instrumentalist. Tommy Dorsey.

Rank Order of Preferred Types of Music. Hot popular, sweet popular, hillbilly, folk music, light classical, hymns, severely classical.

Outstanding Musical Experience. "None - just never interested."

Record Library. Tau's library contained only three recordings: a semi-classical, a Hit Parade popular, and a novelty piece.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Tau turned in thirty-five cards, all but one classified as popular or novelty pieces. Twenty-seven of them contained vocal refrains but Tau's comments indicated that it was the instrumental background he was primarily interested in. He never rated anything higher than 8 nor lower than 5. His comments also indicated that

he liked brass instruments (especially when muted), the saxophone, guitar, and occasionally violins.

Five Preferred Recordings.

- (1) Stardust - Carmichael
- (2) I'm Looking Over a Four-Leaf Clover (Art Mooney arrangement)
- (3) Blue Danube (Spike Jones arrangement)
- (4) Holiday for Strings - Rose
- (5) Twelfth Street Rag (Played by Varsity Ragtime Band)

Keston Test of Musical Preference. Tau made a score of 140.98, ranking next to lowest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. Virtually all of Tau's free choices were performed by dance bands so that there was a preponderance of brass, woodwind and percussion tone color. He liked plucked strings, especially the guitar, and bowed strings only in certain Hit Parade pieces. He was rather indifferent to vocal music and liked the piano only when popular music was played on it.

Staccato-Legato. The majority of his free choices had rather staccato melodies and decidedly staccato backgrounds. The Keston and Forty-Eight Excerpts tests verified this.

Tempo. On the whole he tended to prefer fast pieces to slow ones, both with steady tempi.

Sedation-Stimulation. He liked a few selected sedative pieces, but generally preferred mildly stimulative or stimulative music.

Dynamics. There were definite indications that Tau usually chose music which was quite loud, although there was a moderate amount of fluctuation in the loudness level.

Harmonic Structure. All of Tau's free choices were classified as containing a modern popular chordal structure. He disliked or was indifferent to all other harmonic textures. He also preferred little or no modulation and showed an aversion for pieces in the minor mode.

Rhythm. This was, perhaps, one of the prime determinants of Tau's choices. He exhibited a decided choice for pronounced and extremely pronounced rhythmical pulse in simple meters and unvarying patterns.

Formal Structure. Tau preferred music which was in simple homophonic forms, written with regular phrases, programmatic, and very repetitive.

Type. He liked Hit Parade popular, novelty, some connoisseur's popular, and a very little semi-classical music. He heartily disliked severely classical and popular classical music.

Performance Media. The dance band was preferred to the exclusion of virtually any other medium of performance. Although many of his choices included solo voices, they did not appear, as has been noted, to appeal as much as the instruments themselves.

Summary Statement

Tau showed a rather narrow interest in his preferences. Virtually all of them were popular and novelty pieces which were loud, simple in form, rather fast, repetitive, and, perhaps most significantly, had a pronounced or extremely pronounced rhythmical pulse. There appeared to be very little music which had more than a very moderate measure of appeal for him.

Upsilon's Personality

Overt Life-Plan

Upsilon wants to be a doctor because of the aspirations of his mother and the example of the family doctor. However, he will not be too disappointed if he does not achieve this goal. His only reasons for becoming a doctor are because of the influence of these people, and past experiences in "seeing people pull through" when he was a medical corpsman in the armed forces.

Values

Upsilon has no truly positive goals. He wants to be normal, to make a good public appearance, to be socially acceptable, and just "slide through" in comfort. He keeps busy as a defense against nervousness. The relative order of Spranger values are: social, economic, political, religious, theoretical, and aesthetic.

His interests in fishing and outdoor living seem to have been acquired from his father and the boy-scout ideal. His marriage seems to have been motivated to a considerable extent by his need to gratify his oral and display needs.

He likes the superficial glitter of lighthearted people who "cut up" and have a good time. He enjoys entering discussions, but not seriously, or with the intent to influence anyone.

Upsilon takes pleasure in light music, light art, and reflects in his interests, perhaps to a considerable extent, his neighborhood, his loyalty to the "school colors," and socially acceptable outlets.

Temperamental Endowment

Upsilon's visual motor skill is quite high and his evaluation of a practical situation is also very good. In many ways his life organization is that of an extrovert,

i.e., he takes his stimulation from the environment and orients toward reality. Abstract conceptual ability is poor.

He can make good use of the wide range of sensory experience, e.g., bright colors and vivid imagery. He registers the whole gamut of stimuli from the immediate environment provided nothing sexual or aggressive is implied.

Covert Structure

Unconsciously, Upsilon wishes to come under the influence of a paternal protector who will be nurturant and admiring. He himself has no need for affiliation, sex, or excitement of a sensual sort; therefore he wants to receive attention and affection without returning it. His lack of socially approved internal ethics disorganizes his attempt to portray himself as knowing the highest cultural levels.

In order to get this nurturant paternal cover he wants to be dominated by someone who will fuse their aggression with nurturance, therefore he does not want autonomous self-direction. His mother defeated all his active interests and smothered his active desires in her attempt to bind him to her.

This mother love, or "smother" love, leaves him,

first, with a dislike of close emotional ties for anyone, secondly, with an insatiable need for affection and approval from others - especially older men, and thirdly, with a need for an easy-going existence without conflict or "nagging."

He has no real desire to help people. In his motivation to get ahead at the lowest possible cost, he will "cut corners" and admire people who get something for nothing from members of an out-group. His ego strength is low and he wants to live the life of a drifting parasite. However, he must maintain his status in the eyes of others to protect their interest in him; therefore, he shows much hollow pretentiousness.

He says he believes he is capable of reaching any goals he sets for himself if he applies himself properly, but actually he covertly sees himself as ineffective, unmanned, threatened with physical inadequacies, doing his level best if he manages to be average and normal, beleaguered and beset with threats, engaged in a constant defense struggle, lacking in a consistent life-plan or model to follow, and without as many friends as desired.

Conflicts

Environmentally, there is a conflict between his feminine display techniques and his pose of all-around-fellow. Also, his revulsion from sexual and aggressive

stimulation makes it hard for him to take forward steps which will bring him the doctor's life with its contact with these things. His weak ego makes him unable to tolerate frustrations and deny himself indulgences. If he should ever reach his professed level of aspiration, he would have difficulty facing its responsibilities.

Assessment

Clinically, he appears ostrich-like in a kind of hysteroid denial of the deeper values and affective implications. He is superficial in his life philosophy. His lack of repression and low intensity of sexual and aggressive urges save him from any hysterical neurosis, while his insatiable need for social approval and reliance on others' opinions to tell him what to do or what he should think of himself, save him from psychopathic flaunting of normal ethics. This type of personality is often prone to alcoholism.

Upsilon's Musical Preferences

Musical Background and Training

Participation in Music. Upsilon participated in nine years of grade school music, played saxophone and clarinet in the school band and orchestra for six years and for five years in dance bands and a non-school concert

TABLE VIII

UPSILON'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log				PS*	Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N*	AR*	MPI*	Q*		N	AR	MPI	N	AR	MPI	N	AR	MPI			
TOPE COLOR																	
Piano						19	2.47		8	6.63		1	7.00				
Plucked strings						25	2.32		5	6.80		1	10.00				
Bowed strings						91	2.28		21	5.95		3	8.00				
Brass						94	2.64		19	7.58		3	8.00				
Woodwind						107	2.61		21	7.38		4	8.50				
Female solo voice									4	7.00		1	9.00				
Male solo voice									5	7.40		1	9.00				
Female vocal ens.																	
Male vocal ens.									2	7.00							
Mixed choral ens.																	
Quitar																	
Percussion																	
						1	4.00		2	5.00		1	10.00				
						73	2.78		11	9.00		3	8.00				
STACCATO-LEGATO																	
Prime melody						114		51.49	38		57.49	4		48.02			
Background						114		54.20	41		59.70	4		84.32			
Total effect						114		54.90	38		61.39	4		48.02			

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range, PS = Per cent Score.

TABLE VIII (Continued)

CRITERION	Daily Log			Keston Test			Forty-eight Excerpts			Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI		
TEMPO													
Predominant tempo	120							54.03	38		51.72	4	24.03
Frequency of change	119							50.55	38		50.82	4	0.00
SEDATION-STIMULATION													
Overall degree S-S	120							53.31	38		55.96	4	24.03
Frequency of change	120							53.14				4	21.87
DYNAMICS													
Predominant level	102							63.29	33		57.41	4	50.00
Frequency of change	118							47.79	37		43.04	4	74.03
HARMONIC STRUCTURE													
Chord structure:													
Simple									3		7.33		
Classical	20		2.35						6		5.33		
Romantic	61		2.22						10		5.30		
Impressionistic	2		2.00						3		5.00		
Modern classical	1		3.00										
Modern popular	34		3.23						12		7.33	4	8.50
Frequency of modulation	120							49.39	37		50.68	4	50.00

TABLE VIII (Concluded)

CRITERION	Daily Log			Keston Test			Forty-eight Excerpts			Five Preferred Recordings				
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
RHYTHM														
Prominence of pulse						120			54.71	38			4	48.02
Variability of prom.						120			50.00	35			4	0.00
Var. of pattern						111			52.41	34			4	0.00
Complexity of rhythm						111			46.63	35			4	0.00
TYPE														
Severely classical						31	2.45			20	5.25			
Popular classical						29	2.27			1	7.00			
Semi-classical						30	1.97			5	6.80			
Hit Parade popular						8	3.62			6	7.83		2	8.50
Connoisseur's pop.						22	3.27			5	8.20		2	8.50
Country-western														
Novelty										1	5.00			
PERFORMANCE MEDIUM														
Solo:														
Female voice										4	7.25			
Male voice										5	7.40		1	9.00
Piano						1	1.00			4	6.75			

band. He sang for several years in a church choir and studied voice privately for two years.

Family Musical History. Music was often performed in the home, the mother singing and playing the piano and a brother the trumpet. A phonograph, radio and piano were in the home.

Favorite Vocalist. June Christy.

Favorite Instrumentalist. Johnny Hodges.

Rank Order of Preferred Types of Music. Hot popular, sweet popular, light classical, severely classical, hymns, folk music, hillbilly.

Outstanding Musical Experience. While playing in an armed services dance band Upsilon was asked to play in a famous-name dance band for a single show.

Record Library. Upsilon's record library was quite extensive, the largest part of which was popular recordings. There were a very few semi-classical recordings.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Score

Daily Log. Upsilon turned in the least number of cards of any of the subjects. As noted in Table VIII (p. 214), only one of the fourteen pieces was available on

recordings. Eleven were heard in live performances, five of these being performed by a radio concert band. His comment was concerned less with the music itself than it was with a critical appreciation of excellence of performance and the lyrics of vocal compositions, which were best liked when they were sentimental or humorous. He noted and responded positively to excellence of ensemble in performance.

Five Preferred Recordings.

- (1) Opus in Pastels - Stan Kenton
- (2) I Don't Know Why - Turk-Ahlert
- (3) Stardust - Carmichael
- (4) Deep Purple - Peter de Rose
- (5) "Any Wagner number"

Keston Test of Musical Preference. Upsilon made a score of 113.07, ranking sixth highest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. Since most of Upsilon's choices were confined to popular music there was a great deal of brass and woodwind tone color. Percussion was quite evident in the majority of his choices and the guitar had a strong appeal for him. Bowed strings were consistently rated low, probably because they play such a prominent role in classical music which he rarely liked.

Staccato-Legato. He tended to prefer staccato melodies except for a few sentimental, popular "mood" pieces. Most of them had a decidedly staccato background.

Tempo. His preferences showed no important tendencies.

Sedation-Stimulation. His choices covered a wide range but he listened to, and rated higher, more stimulative music than sedative music.

Dynamics. Other than a few rather soft, sentimental popular pieces his preferences tended toward the forte end of the loudness scale.

Harmonic Structure. Nearly all of his choices were classified as containing modern popular harmonies and a few containing simple harmonies. Little else appeared to have appeal for him.

Rhythm. Though the items in his list of Five Preferred Recordings did not indicate this, his Daily Log items and the results of the other two tests did indicate a strong liking for pieces with pronounced, variable, and complex rhythmical patterns.

Formal Structure. All of his choices were homophonic with regular or regular-irregular phrases, and most

were in simple song-forms. However, it was peculiar that he consistently rated low, pieces cast in regular large forms, but also consistently rated high, pieces in irregular large forms. Phrases were usually repetitious and he preferred programmatic to absolute music.

Type. Upsilon definitely preferred popular music. He disliked all other types except a very few colorful and strongly rhythmical popular classical and semi-classical compositions.

Performance Media. Dance bands and concert bands were the performance media of nearly all his choices.

Summary Statement

Upsilon preferred popular music which had a strong and often rather complex rhythmical pulse. This also seemed to be the prime determinant for his few choices from classical musical literature. He liked music which, in the main, was stimulative, staccato, rather loud, and with pronounced percussive elements. He chose the opposite sort of music only rarely, and then when it had somewhat sentimental lyrics.

Phi's Personality

Overt Life-Plan

Phi wants to be a nurse, travel extensively, and

make new friends. She would be willing to accept marriage in a few years, provided she is sure of herself and the right man.

The origin of the nursing goal is obscure, but she would be expressing her religious need to help people. Also, nursing will let her change positions often enough so she can walk out of any too entangling friendships while, at the same time, she is guaranteed continuing supplies of "big sister" surrogates in the various nurses' quarters in which she would live.

Values

Among the Spranger values, the social value seems to be first, with religion a very close second, economic third and aesthetic value a close fourth. The aesthetic value seems to be undeveloped rather than truly lacking. Political and theoretical values rank last. Phi believes that health is a true value and more important than education.

The family was both close-knit and non-affectionate. The parents pulled themselves up the socio-economic scale from the level of the grandparents, and Phi defines security as having property and/or money; thus the economic motive leads to security and security leads to happiness.

Her musical preferences are appropriate to upward social mobility but may indicate a dawning aesthetic gratification. Seeing new places seems to serve her needs, especially voyeuristic needs, more than any of her values.

Temperamental Endowment

Phi's intelligence is very superior and the highest in the group. She is much more efficient with detailed factual material than in the realm of abstract thought. She lacks genuine artistic creative ability, but probably has excellent practical efficiency and common sense with a keen sense of expediency.

She prefers realism of content in her aesthetic preferences, humor and oral content in pictures. A wide range of stimulation is not used in her everyday experiences and she cannot allow herself to get into a position where she might incur criticism for such experiences and expressions.

Her capacity to become personally involved in whatever she is doing seems to be quite high despite her passive unwillingness to do much, and her claims of intellectual laziness.

Covert Structure

Apparently Phi feels that when she is nurtured there is a price-tag attached wherein she is also robbed

and enslaved in certain ways. She feels a reaction of hatred, desire to retain her time and money, a feeling of insecurity, a fear of the competition she meets, and a sense of loss of close home ties as though her parents had rejected her by sending her away into a disagreeable sort of slavery (college) to their ambitions. If she could receive affiliative recognition and nurturance without the price-tag attached she would gladly give up autonomy and comply with a partner's life-plan without feeling robbed in any way. Such an interpersonal relationship, however achieved, is the end state that she most wishes to achieve as a life-plan and a fulfillment of all her being.

Phi has a real temptation to welcome death as a way out of depressing situations caused by aggressive urges and, being barred from suicide by her religion, has an actual and compelling interest in the various ways in which death and/or injury can occur.

Phi's sexual identification is ambivalent. In terms of choice of love-object she seems powerfully attracted by other women. In fantasy and in hero worship she craved an older sister who would be affectionate toward her, understand her, and with whom she could talk over her problems. In terms of the dynamics described above, the type of relationship leading to happiness in her mind could be with a woman as well as a man. Her dangerous daydreams

of romantic sex experience are equally ambiguous. If she could find a male partner who was a benevolent despot, indulging her whims and correcting her when she is wrong, she probably would easily settle down to heterosexuality.

Conflicts

Environmentally she gets into trouble because of the inadequacy of her social techniques and/or social and family background for achieving her goal which is to fit into the sorority-type social group. By the same token she looks down on the group with which she can and does integrate successfully.

She is in conflict with herself over her sexual feelings, the outcome of which will be settled by the environmental chance of what sort of person picks her up first.

Assessment

She appears to be in a chronic state of indecision, although there are several possibilities for eventual inner personal adjustment. Nursing presents too much of a temptation in terms of homosexual temptation. If she continues in her present state of dissatisfied confusion, she might well become a genuine neurasthenic or develop a serious psychosomatic illness because of her emphasis on health

and ill health, together with the passive death wish. If the conflict and turmoil continues too long, she might even develop an insidious hebephrenic reaction, or some other schizophrenic reaction, but this is not immediately imminent.

Phi's Musical Preferences

Musical Background and Training

Participation in Music. Phi was enrolled in grade school music for five years, played a woodwind instrument in the school band for six years, and played the piano for thirteen years. She appeared in piano recitals, summer band concerts, and played accompaniments for her church choir.

Family Musical History. Although her parents had a positive attitude toward Phi's musical training and provided a radio, phonograph and piano, music was hardly ever performed in the home. None of her family were musicians.

Favorite Vocalist. Thomas L. Thomas or Nelson Eddy.

Favorite Instrumentalist. Jose Iturbi.

Rank Order of Preferred Types of Music. Light classical, severely classical, folk music, sweet popular, hymns, hot popular, hillbilly.

TABLE IX

PHI'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log				Keston Test			Forty-eight Excerpts			Five Preferred Recordings			
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR														
Piano	1	4.00			1.43	19	2.05		11	5.45		3	8.33	
Plucked strings	4	8.75			8.38	25	2.48		7	4.43		1	8.00	
Bowed strings	9	8.33			20.04	91	2.87		20	7.70		3	8.00	
Brass	11	8.18			22.90	94	2.39		21	6.86		3	8.00	
Woodwind	12	8.33			24.94	107	2.46		22	7.27		3	8.00	
Female solo voice									3	5.67				
Male solo voice	1	8.00			2.24				5	7.20				
Female vocal ens.	1	8.00			2.04				1	7.00				
Male vocal ens.									3	6.33				
Mixed choral ens.														
Guitar									3	1.67				
Percussion	9	8.33			17.99	73	2.28		12	6.33		3	8.00	
STACCATO-LEGATO														
Prime melody	12		32.23	26.38		114		49.10	44		43.50	3		33.33
Background	12		48.38	35.52		114		45.88	44		44.47	3		64.00
Total effect	12		31.42	26.43		114		48.86	44		43.16	3		47.93

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
 PS = Per cent Score.

TABLE IX (Continued)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TEMPO																
Predominant tempo	11		52.75	41.76		120		49.13	44		48.70	3		43.75		
Frequency of change	12		47.22	34.23		119		53.60	44		46.72	4		50.00		
SEDATION-STIMULATION																
Overall degree S-S	12		49.50	39.30		120		52.66	44		46.67	4		45.28		
Frequency of change	11		45.87	36.49		120		39.35				3		72.22		
DYNAMICS																
Predominant level	6		47.23	38.03		102		46.11	35		45.59	2		70.58		
Frequency of change	11		73.69	24.95		118		56.74	44		56.12	3		72.22		
HARMONIC STRUCTURE																
Chord structure:																
Simple																
Classical	1	10.00			10.00	20	3.25		4	4.50						
Romantic	3	8.67			26.00	61	3.01		8	7.00						
Impressionistic	3	9.33			28.00	2	3.00		14	7.64			2	8.00		
Modern classical	1	8.00			8.00	1	3.00		3	8.00			2	9.00		
Modern popular	4	7.00			28.00	34	1.18		1	1.00						
									11	4.64						
Frequency of modulation	12		45.67	32.77		120		58.69	43		59.72	4		73.52		

TABLE IX (Concluded)

Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
CRITERION	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI	
RHYTHM															
Prominence of pulse	11		31.59	25.80		120		41.62	44		51.93	4		30.19	
Variability of prom.	12		47.80	37.75		120		58.77	40		36.42	4		47.06	
Var. of pattern	11		47.30	37.79		111		54.72	38		48.14	4		50.00	
Complexity of rhythm	11		48.81	36.57		111		53.36	38		44.41	3		25.00	
TYPE															
Severely classical	1	9.00			9.00	31	3.19		22	7.09		2	8.00		
Popular classical	5	9.40			47.00	29	3.24		3	8.00		2	9.00		
Semi-classical	4	6.75			27.00	30	2.50		6	6.67					
Hit Parade popular	1	8.00			8.00	8	1.00		5	6.40					
Comnoisseur's pop.	1	9.00			9.00	22	1.09		6	3.50					
Country-western									2	1.50					
Novelty															
PERFORMANCE MEDIUM															
Solo:															
Female voice					66.67				3	5.67					
Male voice	1	8.00			33.33	1	2.00		5	7.20					
Piano	1	4.00							6	4.83		3	8.67		

Outstanding Musical Experience. Phi saw a movie in which a famous pianist played popular classics from romantic musical literature. She also related hearing a symphony orchestra play two highly colorful and rhythmical dance-like popular classics which impressed her greatly.

Record Library. The great majority of Phi's library contained popular classical, a few semi-classical and a very few Hit Parade popular recordings.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Phi returned sixty cards of which more than two-thirds were descriptive of classical music. Very few popular pieces were rated positively and most of these were well-established popular songs from Cole Porter, Victor Herbert and Jerome Kern musicals. A few pieces performed by a concert band were well-liked. Her comments indicated that Phi liked "smooth flowing" melodies but also a few of pronounced dance-like character. She seemed to stress the importance of changes in tempi and mood. She liked "well built up" dynamic effects. Most singers, including well-established professionals, were criticized because they did not "put feeling" into their voices. She disliked all country-western, most popular and some classical music because it was "monotonous."

Five Preferred Recordings.

- (1) Clair de Lune - Debussy
- (2) Piano Concerto in A Minor - Grieg
- (3) Bolero - Ravel
- (4) Piano Concerto No. 1 in B-flat Minor -
Tschaikowsky
- (5) Theme of Scheherazade from Scheherazade -
Rimski-Korsakow.

Keston Test of Musical Preference. Phi made a score of 42.74, ranking second highest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. All except approximately six per cent of Phi's casual listening was devoted to music performed by large orchestras and occasionally vocal or piano solos with large orchestral accompaniment. Bowed string tone appealed strongly to her and she rated string ensembles and string orchestras even higher than she did the conventional symphony orchestra. She was rather indifferent to solo voices and vocal ensembles, liking them only moderately well and then only when they sang classical or occasionally sweet popular music. She detested the guitar, even when classical music was performed on it.

Staccato-Legato. Phi's choices showed much variability, but the great majority were legato in style.

Tempo. Although most of her preferences had a

rather slow tempo, she occasionally liked fast pieces. She consistently rated low, pieces in moderate tempi. Approximately half of her choices were quite variable with regard to tempo.

Sedation-Stimulation. No noteworthy trend appeared here. Her choices varied widely, although the great majority may be classified at either extreme with relatively few classified as "mildly stimulative."

Dynamics. There were more soft pieces among Phi's choices than loud ones, but in nearly every case there was much variability of the loudness level.

Harmonic Structure. Compositions with an impressionistic harmonic texture were consistently rated highest. Also rated high were those with romantic and classical chord structures. She was ambivalent regarding modern classical chord structure and selected only a few lushly harmonic popular pieces. There was strong dislike for pieces with simple harmonies. Most of her preferences contained much modulation.

Rhythm. Other than a selected few dance-like classics and popular pieces Phi chose pieces which did not have a strongly pronounced rhythmical pulse.

Formal Structure. Phi did not choose polyphonic

music in her casual listening, but she rated it high in the forced choice tests. She liked music in all forms - small and large, regular and irregular. Phrases in her free choices were quite repetitive, although this was not validated by her responses in the Keston and Forty-Eight Excerpts tests where she preferred many pieces with only a moderate amount of repetition. She liked and chose abstract as well as programmatic music.

Type. Phi rated popular classical music highest with severely classical music a close second. There were a few semi-classical and extremely few popular pieces which she liked. She detested country-western music.

Performance Media. Music performed by the large orchestra consistently rated highest. She liked the piano, but usually only when heard as a solo instrument in a large work with orchestral accompaniment. String ensembles were extremely well-liked.

Summary Statement

Phi's listening was confined almost entirely to classical music performed by the large orchestra. She enjoyed variability of tempo and dynamic level, but on the whole preferred music which was legato, slow and soft, without a strong rhythmical pulse. Her choices were unusual

in the sense that she preferred the extremes in tempo and loudness to the mid-point in the scale of either. Harmonically, she liked impressionistic, romantic and classical music, and disliked all simple, most modern classical, and nearly all modern popular harmonies. Vocal music did not appear to appeal strongly to her except when rather sentimental lyrics captured her fancy.

Chi's Personality

Overt Life-Plan

Chi has no formulated vocational aspiration, contending that he came to college to find out what his interests are. He wants to make money in a paternal atmosphere, i.e., be told clearly what to do and then be left alone to do it without criticism. He had an undifferentiated discipline pattern where anything he was told not to do was equally bad. He counted his father and grandfather among his heroes and his family had "pet" tales about how he worshipped his father.

Values

Chi has never developed a hierarchy of values. He has various pleasant states that he enjoys such as being passively directed, a sensuous enjoyment of luxury, being passively admired, and being free from stress of effort.

He enjoys being in the company of strong masculine companions. He remembers things that have happened to him and around him rather than the things he has done. He has always had a comfortable home.

Temperamental Endowment

His intelligence is just barely in the superior range; his verbal capacity is infected with indifference toward communicating his ideas to others. He has a poor physical constitution, schizoid in habitus, and he has a "functional" heart murmur. He is open to a wide range of stimuli and is sensitive to most nuances of the environment, but his sensitivity is passive and he is over-compliant to stimuli from the outside, and in that sense is an extrovert in a child-like, dependent way. He would find it nearly impossible to refuse a request and a request is required to set him in motion.

He orients toward realistic details, rather than toward intellectually stylized symbolizations. He dislikes irreality and jokes hinging on conventions in cartoons. Vivifying characteristics are avoided in both pictures and cartoons unless nudes or males are involved.

Covert Structure

Covertly he sees his parents as making a puppet of

him for the sake of their own prestige. He reacts with rebellious antisocial urges and feels a need to reject his parents, who reject him in return and become angry with him. He is then in conflict between his rage and jealousy and his need to control himself for fear of losing, either intentionally or accidentally, the loved object because of his aggression. If he controls himself or if he aggresses, in either case, he is afraid of mental and physical mutilation as punishment for his intentions, no matter how he rationalizes his aggression. Masochistic fantasies take the place of his aggressive needs and usually involve some sort of castration - either moral or physical.

Chi does not show any needs for autonomy, dominance, construction, achievement, exposition, infra-avoidance, and inviolacy. He also lacks needs for play, order, retention and sentience. The absence of these needs make depression habitual and induce his dysphoric, melancholic coloring.

Sexually he seems to have a masculine identification but he has many feminine attitudes such as submission, display, and dependency. He has a good deal of bodily anxiety and seems to dwell almost lovingly on castration symbols. Apparently he is not conscious of his feminine strivings; if he were approached he might drift into a homosexual adjustment as the passive feminine partner. Any homosexual episode would arouse guilt and anxiety

feelings because of the social guilt he would thus incur, and because of the accompanying threat of loss of love. On the other hand, if he were threatened by a sadistic, dominating male, he would take masochistic pleasure in being enslaved.

Affectively he is labile and diffuse in emotional expression without direct and specific causes for his moods and feelings. He is strikingly lacking in inner integration, ego-ideal, and capacity for self-direction. He has, therefore, no true super-ego.

Conflicts

He has some environmental conflict in that his grades are not good enough to please his aspiring parents. His need to be deferent and compliant conflicts with his needs for asocial sources of excitement. His needs for recognition, acquisition and retention conflict with his passive, compliant good humor.

Assessment

He has given up his self as the price of remaining immature. This lack of life-plan will get him into trouble precisely to the extent that he does not find stable people to direct him. His enormous lack of internal organization, e.g., that all things are equal to him in importance, gives

him a lack of psychological firmness and incapacitates him for self-direction and mature choices. His basic character structure demands that he stay on display and be noticed; if this need is severely thwarted to the point where everyone is absolutely indifferent to him, his behavior will not be merely naive and immature, but positively schizoid with paranoid overtones. If he can find a secure long-lasting masochistic niche for himself, he may get by.

Chi's Musical Preferences

Musical Background and Training

Participation in Music. Chi's only school music experience consisted of about five years of grade school classroom music. He did not play or sing in any organization, in or out of school.

Family Musical History. The parents' attitude toward Chi's musical training was indifferent and music was hardly ever performed in the home. The only member of the family who played was a brother who was a drummer. There was a radio and phonograph in the home, but no piano.

Favorite Vocalist. Vaughan Monroe.

Favorite Instrumentalist. Sammy Kaye.

Rank Order of Preferred Types of Music. Sweet popular, light classical, hot popular, severely classical,

TABLE X

CHI'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TONE COLOR																
Piano	3	3.33			2.10	19	2.53		8	5.38						
Plucked strings	2	7.00			2.36	25	2.56		4	6.00						
Bowed strings	6	7.50			7.50	91	2.45		16	7.12			3	8.67		
Brass	17	6.24			17.63	94	2.45		17	7.41			4	8.50		
Woodwind	17	6.24			18.02	107	2.58		19	7.32			4	8.50		
Female solo voice	6	6.00			7.36				3	6.67						
Male solo voice	11	7.09			14.60				5	7.80			3	8.33		
Female vocal ens.									1	8.00						
Male vocal ens.	4	7.25			5.26				1	7.00						
Mixed choral ens.	4	5.00			4.07											
Guitar	3	6.33			3.42	1	2.00		1	6.00						
Percussion	19	6.26			16.14	73	2.69		9	7.67			4	8.50		
STACCATO-LEGATO																
Prime melody	20		67.16	28.20		114		49.89	32		45.87		4	50.00		
Background	20		67.69	24.03		114		51.51	32		47.08		4	64.11		
Total effect	20		67.65	27.41		114		52.65	32		46.67		4	50.00		

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
 PS = Per cent Score.

TABLE X (Continued)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TEMPO																
Predominant tempo	19		51.24	37.81		120		52.25	32		47.22	3		46.00		
Frequency of change	20		26.53	24.93		119		48.93	32		23.74	4		52.00		
SEDATION-STIMULATION																
Overall degree S-S	19		47.34	36.22		120		49.53	32		46.15	4		48.11		
Frequency of change	20		52.65	38.55		118		48.72	32		46.72	4		75.96		
DYNAMICS																
Predominant level	17		71.73	24.52		102		62.92	26		45.97	4		75.96		
Frequency of change	20		52.65	38.55		118		48.72	32		46.72	4		75.96		
HARMONIC STRUCTURE																
Chord structure:																
Simple												3	6.33			
Classical						20	2.10					3	6.67			
Romantic						61	2.42					11	6.45			
Impressionistic						2	2.00					1	6.00			
Modern classical						1	3.00					1	5.00			
Modern popular	20	6.35			100.00	34	2.82					10	7.90			
												4	8.50			
Frequency of modulation																
	20		53.63	39.00		120		50.06	31		22.82	4		75.96		

TABLE X (Concluded)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
RHYTHM																
Prominence of pulse	20		49.27	36.75		120		52.05	32		45.01	4		31.37		
Variability of prom.	20		26.35	24.93		120		36.70	29		46.38	4		51.93		
Var. of pattern	20		24.54	25.01		111		36.75	28		47.37	4		51.93		
Complexity of rhythm	17		0.00	12.50		111		52.95	27		47.16	3		0.00		
TYPE																
Severely classical						31	1.84		13	6.23						
Popular classical						29	2.27		2	5.50						
Semi-classical						30	3.13		6	7.50						
Hit Parade popular	18	6.61			93.70	8	3.12		6	8.67			2	8.50		
Connoisseur's pop.	2	4.00			6.30	22	2.64		4	5.75			1	9.00		
Country-western									1	6.00						
Novelty													1	8.00		
PERFORMANCE MEDIUM																
Solo:																
Female voice	4	5.75			26.13				3	6.67						
Male voice	9	7.22			73.87				5	7.80						
Piano						1	2.00		3	5.00			3	8.33		

hillbilly, hymns, folk music.

Outstanding Musical Experience. None was listed.

Record Library. Chi had no record library.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score.

Daily Log. Chi returned thirty-two cards, virtually all of which described Hit Parade popular pieces. Twenty-nine of these contained vocal solos, twenty-two performed by male vocalists. His comments showed that he liked certain (male) vocal qualities and that he was also sensitive to the lyrics. He liked obvious, "tuneful" melodies and disliked most fast improvisations which are typical of much connoisseur's popular music, stating that the latter had "no tune" and "served no purpose."

Five Preferred Recordings.

- (1) My Foolish Heart (Performed by Billy Eckstine)
- (2) Slaughter on Tenth Ave. (Performed by Lennie Hayton)
- (3) The Thing (Performed by Tommy Tucker)
- (4) Be My Love - Billy Eckstine
- (5) Always (Performed by Kathryn Grayson)

Keston Test of Musical Preference. Chi made a score of 132.90 ranking third from the lowest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. The most notable feature of Chi's preferences in tone color was his preference for the male voice. Male vocal solos and ensembles accounted for approximately one-fifth of all colors present in his free choices. This proportion greatly exceeded that of any of the other subjects who chose music performed, at least in part, by male voices. There also appeared to be a strong preference for bowed string tone and a distinct dislike for piano tone.

Staccato-Legato. Legato pieces were disliked less often than staccato pieces, but on the whole there appeared to be no important tendency.

Tempo. There were no noteworthy tendencies with regard to tempo when all items were categorized according to this criterion.

Sedation-Stimulation. Chi chose sedative more often than stimulative music although he occasionally rated stimulative pieces quite high. The difference was slight.

Dynamics. The majority of his choices ranged from mp to ff, although there were a few p or pp pieces which were well-liked.

Harmonic Structure. All free choices had a modern

popular harmonic structure. When forced to rate or choose among pieces composed of other harmonic textures, Chi still rated modern popular high and all others consistently low.

Rhythm. The prominence of rhythmical pulse did not appear to be a prime determining factor of Chi's preferences. On the whole, he chose pieces which had a consistently prominent pulse and simple rhythmic patterns.

Formal Structure. Since virtually all of his choices were Hit Parade popular pieces they were homophonic, in simple song-forms and were quite repetitive. His preferences were decidedly programmatic and he disliked nearly all abstract music.

Type. As has been already noted, nearly all of his preferences were classified as Hit Parade pieces. He occasionally rated a semi-classical composition high but disliked nearly everything else, including connoisseur's popular music.

Performance Media. Chi's free choices were preponderantly vocal (especially male solo voice) compositions with a popular orchestral accompaniment.

Summary Statement

Since Chi preferred popular music above all other

types this naturally precludes a compositional style typical of this sort of music. His preference for the male voice was unusual and atypical when compared to the preferences of the other subjects in this study. Melodic lines were preferred which were repetitive and obviously "tuneful." Subtlety in compositional style, even in popular music, was distrusted and consistently rated low.

Psi's Personality

Overt Life-Plan

Psi wants a degree in education so she can work with young children, but preferably not as a classroom teacher. She states that if she thought she had the talent, she would be an occupational therapist. She hopes eventually to be married and have a family. Her assumption that it is good to have authority over children stems in part from her acceptance of her parents' strict insistence that disobedience was the worst offense and that they "knew best."

Values

Psi's main value appears to be religious colored by many ethical and moral ramifications. Her social value would be most important except that her interest in people is of a restricted kind, not broad as defined by Spranger.

The other Spranger values are similarly restricted in their application to her; they rank in the following order: political, economic, and theoretical. There are no signs whatsoever of a genuine aesthetic interest.

She seems to like a simple, placid life without contact with "evil," and to her, happiness consists in knowing that the best is being done with what one has. Her need to win approval, together with her conviction that she is striving for righteousness, makes it seem natural to her that after she is trained she should try to have authority and that this is a good goal to have. She has very few deep interests, but those she has usually take the form of passive entertainment.

Temperamental Endowment

Psi has a high average intellectual endowment bordering on superior. She is slowed in her motor movements to the point where it is suspected that her slowness may have been augmented by a certain amount of affective depression. She draws faulty conclusions from the data in front of her when she has to make abstract inferences, especially when her emotions and fantasies are involved. Her common sense is quite low, and since she can rely neither on integrative theorization nor on perception of the practical expedient, she tends to be intellectually arbitrary.

She likes realism in her aesthetic preferences. She apparently reacts immediately and vividly to a limited range of experience, especially painful experience.

Covert Structure

While her overt life-plan is placid, moral, compliant, and inoffensive, her covert needs and strivings are startlingly opposite. With insistent arbitrary behavior and relative disregard for objective stimuli, she shows what tremendous pressure her concealed needs must have behind them, urging expression in some, as yet undiscovered, form. She has a general concealed need for aggression and an inner state of anger. This produces in her a state of psychological and physical tension accompanied by exhaustion.

She cannot get the affiliation she craves except when she is masochistically submissive, for if she tries to break away from the parental pattern and express her own needs overtly, she simply is rejected by her fellows. This social rejection blocks any psychological progress.

Psi has certain covert outlets, e.g., in art she prefers nude and aggressive, story-telling, and exciting pictures. Her fantasies are filled with aggression and social successes. Actually, needs for achievement, acquisition, and creative construction are absent in her covert personality. She does not seek recognition, nor

does she attempt to counteract failures in an active way. As a matter of fact, she does not even seek change. There is no observable need for play, excitement, self-exhibition, or other active sources of joy. Sex apparently is acceptable only for procreative purposes.

She has no overt realization of her need to reject authority, her rage reaction, nor her desire to strike out on her own. Thus her ego is virtually non-existent; her super-ego is very punishing but she has really escaped its control by being willing to be punished rather than change any of her passive, lazy, and aggressive ways. It is probably fortunate that she has little libidinal drive since she could not control it in any way, not even intellectually or by perceiving the conventional methods. She appears to have very little affective expression or capacity for it.

Conflicts

Any real environmental conflicts are not known, but it is probable that conflicts arise in her social interaction where she is subtly rejected, and in turn, subtly disappoints and rejects others. Actually, she is in constant massive conflict between her overt front and her covert strivings. She is trying to handle this by repressing and suppressing her covert needs, but probably the effort robs her of much energy.

Assessment

She is possibly pre-schizophrenic, unintegrated, and has severe neurotic limitations which keep her going around in a vicious circle with completely ineffective mechanisms for breaking it up, and with no will to do so because she is not really aware of the extent to which she is suffering. Her career plan is quite inappropriate to her real needs, although if she could get married to an authoritarian husband she could probably become a successful housewife.

Psi's Musical Preferences

Musical Background and Training

Participation in Music. Psi was exposed to eight years of grade school general music classes, played a brass instrument in the high school band for six years and participated briefly in a choral group. Piano was studied privately for about a year. Extracurricular participation in music consisted of summer band concerts and a local talent operetta production in which Psi played in the orchestra.

Family Musical History. All of Psi's family played at least one instrument and all were singers. The parents' attitude toward Psi's musical training was of course

TABLE XI

PSI'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log					Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI
TONE COLOR	Here, as in the case of													
Piano					Upsilon, nearly all of the	19	2.84		11	6.64		2	9.50	
Plucked strings					listening Psi did was to	25	2.76		8	6.13				
Bowed strings					"live" concerts and radio	91	2.60		24	8.13		2	8.00	
Brass					programs. Fourteen Daily	94	2.50		22	7.41		2	8.00	
Woodwind					Log cards contained no iden-	107	2.33		26	7.50		3	8.33	
Female solo voice					tifying information as to				4	6.50				
Male solo voice					the performer, fifteen were				5	7.40				
Female vocal ens.					from "live" radio programs,				1	8.00				
Male vocal ens.					and eight were from "live"				3	9.00		1	10.00	
Mixed choral ens.					concerts attended by Psi.							2	9.50	
Guitar					Of the remaining eight com-	1	3.00		3	4.67				
Percussion					positions which, presumably,	3	2.53		12	7.33		2	8.00	
					were recorded, it was pos-									
STAOCATO-LEGATO					sible to secure only four									
Prime melody					for purposes of analysis.	114		50.66	48		47.07	3		29.33
Background					This was also deemed too	114		50.89	48		47.53	3		49.03
Total effect					small a number to warrant	114		49.71	46		47.20	3		49.03
					tabulation at this point.									

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
PS = Per cent Score.

TABLE XI (Continued)

CRITERION	Daily Log			Keston Test			Forty-eight Excerpts			Five Preferred Recordings				
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI
TEMPO														
Predominant tempo						120		48.43	48		50.30	2		50.00
Frequency of change						119		53.48	48		50.85	3		47.06
SEDATION-STIMULATION														
Overall degree S-S						120		47.07	48		48.61	3		44.00
Frequency of change						120		45.60				3		38.71
DYNAMICS														
Predominant level						102		61.40	39		49.29	3		73.52
Frequency of change						118		50.99	48		52.46	3		100.00
HARMONIC STRUCTURE														
Chord structure:														
Simple									4	7.75				
Classical	20	2.30							9	7.67		1	9.00	
Romantic	61	2.67							16	8.00				
Impressionistic	2	2.00							3	7.67				
Modern classical	1	2.00							1	5.00				
Modern popular	34	2.32							13	7.54		2	8.00	
Frequency of modulation	120							49.19	47		51.56	3		69.35

TABLE XI (Concluded)

CRITERION	Daily Log			Keston Test			Forty-eight Excerpts			Five Preferred Recordings		
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	
RHYTHM												
Prominence of pulse	120					48		49.36	3		48.48	
Variability of prom.	120					42		41.32	3		45.45	
Var. of pattern	111					42		46.04	3		44.00	
Complexity of rhythm	111					42		42.29	2		0.00	
TYPE												
Severely classical	31	1.81				24	7.50		1	9.00		
Popular classical	29	2.45				3	7.33		1	10.00		
Semi-classical	30	3.56				7	8.86					
Hit Parade popular	8	2.87				6	8.00					
Connoisseur's pop.	22	1.95				6	5.33		1	6.00		
Country-western						2	4.50					
Novelty												
PERFORMANCE MEDIUM												
Solo:												
Female voice						4	6.50					
Male voice						5	7.40					
Piano	1	2.00				6	6.83					

positive, and although there was no phonograph in the home there was a radio and piano. Music was performed "fairly often" in the home.

Favorite Vocalist. Vaughan Monroe.

Favorite Instrumentalist. Tommy Dorsey.

Rank Order of Preferred Types of Music. Sweet popular, light classical, folk music, hymns, severely classical, hot popular, hillbilly.

Outstanding Musical Experience. Psi observed a European group of singers and dancers perform native dances and folk songs.

Record Library. No recordings were listed.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Psi returned forty-five cards, only four of them descriptive of music which was available on recordings. Psi was especially negligent in providing identifying information regarding the performers and thus made it impossible even to start a search for a recording of the listed title. More than half of the cards described music heard in live concerts, either in person or broadcast. Only six titles remained which could be found in listings

of recordings. Judging from what information was provided it is probable that the greatest portion of Psi's listening time was given to Hit Parade popular music. Her comments indicated that "melody," "quality of voice," and "arrangement" were the criteria by which the music was most often judged.

Five Preferred Recordings.

- (1) Battle Hymn of the Republic - Stowe
(Performed by the Fred Waring group)
- (2) Jesu, Joy of Man's Desiring - Bach
(This was a choral-orchestral arrangement of the familiar chorale prelude)
- (3) Play Gypsies, Dance Gypsies - Selinsky
- (4) Andante Cantabile - Tschaikowsky (Popular arrangement)
- (5) Slaughter on Tenth Avenue (Sidney Torch)

Keston Test of Musical Preference. Psi made a score of 119.33, ranking eighth highest among the twelve subjects.

Interpretation of Musical Criteria Scores

Tone Color. Male vocal ensembles, mixed choral ensembles, piano, and orchestral string tone were consistently ranked high. Other tone qualities were ranked rather widely over the scale, indicating that probably they were not prime determinants of her preferences.

Staccato-Legato. A wide range of preferences was noted. However, Psi rated staccato pieces low more often than legato pieces.

Tempo. Generally this criterion did not yield any strong tendencies, although moderato pieces were usually preferred above those at either tempo extreme.

Sedation-Stimulation. A small though definite tendency of preference for sedative music was observed, although there were a few well-liked pieces that were judged to be stimulative.

Dynamics. Psi preferred a moderate amount of fluctuation in the dynamic level and showed a very slight preference for loud music. This can be accounted for in her free choices by the fact that she most often chose popular music which, as a type, is seldom performed below mf.

Harmonic Structure. The great majority of the highest ranked pieces had a romantic or modern popular chord structure. A few isolated well-liked pieces had a classical chord structure. The romantic element was strong in all of Psi's preferences.

Rhythm. Prominence of rhythm showed no important tendency. Few changes in rhythmical pattern or prominence, and simple or moderately complex rhythmical patterns were preferred. Pieces with complex rhythms were disliked.

Formal Structure. Nearly all of Psi's choices were in simple song-forms and contained regular phrases.

Type. Hit Parade popular and semi-classical compositions made up nearly all of Psi's preferences, her free choices being categorized in the former. She disliked country-western music and occasionally rated severely classical or popular classical music high.

Performance Media. A wide variety of performance media was rated both high and low. However, the dance band and small orchestra, particularly with male soloists and ensembles, and occasionally mixed choral ensembles, performed nearly all of the music of her free choices. Piano was rated high, although it did not appear often in her listening list.

Summary Statement

Psi was a romanticist in her choices of music which most often were of the modern popular or semi-classical type. This music was best liked when it had a simple structural form, simple or only moderately complex rhythms, a moderate tempo, and moderate fluctuations in the loudness level - in short - music that was simple, romantic, and slightly sedative.

Omega's Personality

Overt Life-Plan

Omega's eventual goal is to become a doctor,

specializing in surgery. He wants to practice in a small town in order to see the same people in his office several times. He wants a private plane so that he can take off when he pleases. Marriage is something he feels he should want, but he speculates that if he had a laboratory he might not need to be married. He has fantasy-goals of being among the first to venture interplanetary travel and of discovering some new drug to cure some hopeless disease. At present his academic record does not support his ambitions.

Values

Omega wants to be respected, but unlike some subjects, neither social respectability nor fame as a leader are involved. He positively rejects pretense, sublimation and social cover, but positively values freedom of sensual gratification.

The rank order of Omega's values according to the Spranger system is: aesthetic-sensual, economic, social, political, theoretical, and religious.

His earliest vocational aspiration was to be a flier which represented adventure, glory, and autonomy; he still cherishes this as a hobby. His second great interest is music which he appreciates not for its aesthetic qualities but because of the socially acceptable excitement

which he obtains in a "jam" session with his "buddies."

Being a doctor would serve his needs for prestige, lack of sexual repression, money, and excitement. He wants asocial sex experience as part of his general desire for excitement; marriage, however, is desired only because it would serve to provide social integration.

Temperamental Endowment

Omega has a superior intelligence which is especially adequate for abstract reasoning. His skill with words and his store of academic information is less adequate, suggesting some lack of cultural background. He has a positive, and perhaps basic, temperamental craving for all types of stimulation. He is an extrovert in the sense that he enjoys stimulation from the outside, although unlike others in this group he does not depend on the environment for the source of motive power.

In organizing unstructured material he turns naturally toward using facts and concrete potentialities; intellectual integrations are an afterthought. He manifests a strong hunger for participating in emotional situations and acts.

Covert Structure

Omega's covert need-structure is consistent with

his overt values and strivings; most of what has been concealed or suppressed is usually subject to social disapproval. Preoccupation with concealment and avoidance of blame or harm is absent, however, which suggests a kind of self-confidence.

There are certain things of which he can never get enough, such as physical beauty, intelligence and maturity of use of intelligence, financial resources, congenial environment, including close affective ties, and freedom to do as he pleases. His intelligence is actually restricted by a lack of creativeness and cultural poverty.

One source of excitement is an alertness to enjoyment of sado-masochistic episodes. To him, heterosexual intercourse is unclean and debases the woman, i.e., represents an aggressive outlet against women, who as a group are threatening. Women serve to deny the feminine component in himself. In spite of this attitude toward heterosexual intercourse, his central need for excitement requires direct outlets rather than sublimations, the major outlet being sexual.

He both likes and identifies with masculine figures; his only fear is that he himself is not masculine enough. This means that the female is bound to be desired only as an outlet for aggression. He so strongly wants the respect of others, especially men, that homosexuality is at once an

attraction and a threat. He overcompensates for his own tendencies by a strong effort to be heterosexual. On the other hand, promiscuous heterosexual relationships disgust him. Autoerotic fixation is probably present.

His medical career is an appealing solution to these problems because it allows a socially acceptable sublimation for his homosexual voyeristic cravings, has the excitement of life and death, provides a social sublimation for aggressive needs through surgery, affords the hope of recognition and respect, requires intellectual maturity and wisdom, and he feels people will confide in him without attempting to "cover up."

He has a strong ego-ideal. He is basically narcissistic, desiring to be loved more than he desires to love others.

Conflicts

Environmentally our culture has not the structures to permit his needs expression. Much of his energy is going into the attempt to express his needs. Internally he is in conflict because he feels any form of homosexual expression will forfeit him the respect he craves and the close emotional ties he wants. He has aesthetic-sensual interests in music but insufficient creativeness to make a career out of it. His medical interest is non-academic in

motive power which makes it difficult for him to study.

Assessment

Omega has a strong ego and a difficult set of drives to reconcile and express in this cultural setting. A career as a doctor would be practically ideal for him. His conflict is producing an uneasy social compromise adjustment which is taking a toll of his energies.

Omega's Musical Preferences

Musical Background and Training

Participation in Music. Omega had two years of grade school general music, played for three years in a high school dance band and sang for one year in a chorus. He has played the guitar for eight years, the ukelele for two years, and has studied voice with a studio teacher for one year. His only extracurricular participation in music consisted of an occasional "jam session."

Family Musical History. Omega's mother and an aunt were the only family members who performed music, occasionally singing. His parents' attitude toward his musical training was positive and music was performed in the home "fairly often." The home furnished a radio and phonograph, but no piano.

TABLE XII

OMEGA'S SCORES ON THE VARIOUS MEASURES OF MUSICAL PREFERENCE

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N*	AR*	MPI*	Q*	PS*	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TONE COLOR																
Piano	1	9.00			2.77	19	2.95		9	5.55		1	8.00			
Plucked strings	1	8.00			2.77	25	2.48		8	6.25		1	8.00			
Bowed strings	3	8.67			8.36	91	2.17		20	5.55		1	8.00			
Brass	5	9.00			14.68	94	2.53		20	6.85		3	7.67			
Woodwind	6	9.00			17.45	107	2.48		22	6.59		4	7.75			
Female solo voice	2	10.00			7.20				4	6.25		2	7.50			
Male solo voice	3	8.33			9.41				4	7.50		1	9.00			
Female vocal ens.	3	9.00			9.69				1	4.00						
Male vocal ens.	1	8.00			3.04				3	4.67						
Mixed choral ens.	1	10.00			3.60							1	9.00			
Guitar	1	8.00			2.77	1	4.00		3	7.00						
Percussion	6	9.00			17.72	3	2.76		10	7.20		3	7.67			
STACCATO-LEGATO																
Prime melody	7		34.61	41.10		114		50.65	41		49.84	5		45.50		
Background	7		82.85	16.64		114		53.82	41		50.31	5		37.83		
Total effect	7		49.70	16.67		114		52.65	41		49.70	5		45.50		

*N = Number, AR = Average Response, MPI = Musical Preference Index, Q = inter-quartile range,
 PS = Per cent Score.

TABLE XII (Continued)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
TEMPO																
Predominant tempo	7		50.00	37.86		120		50.13	41		47.09	5		46.00		
Frequency of change	7		25.26	25.00		113		45.66	41		51.88	5		25.00		
SEDATION-STIMULATION																
Overall degree S-S	7		24.71	25.00		120		51.17	41		49.06	5		46.00		
Frequency of change	7		50.72	35.77		120		58.89				4		0.00		
DYNAMICS																
Predominant level	6		73.52	24.91		102		54.27	36		47.32	5		70.96		
Frequency of change	7		51.87	37.83		118		44.54	42		45.51	5		78.57		
HARMONIC STRUCTURE																
Chord structure:																
Simple									4	6.25						
Classical					20	1.85			7	4.14						
Romantic					61	2.08			12	5.00		1	9.00			
Impressionistic					2	2.00			2	7.00						
Modern classical					1	2.00			1	4.00						
Modern popular	7	8.86			100.00	34	3.58		13	7.39		4	7.75			
Frequency of modulation	7		25.35	25.00		120		43.25	41		22.06	5		50.00		

TABLE XII (Concluded)

CRITERION	Daily Log				Keston Test				Forty-eight Excerpts				Five Preferred Recordings			
	N	AR	MPI	Q	PS	N	AR	MPI	N	AR	MPI	N	AR	MPI		
RHYTHM																
Prominence of pulse	7		50.29	16.67		120		56.78	41		49.80	5		52.66		
Variability of prom.	7		52.53	37.70		120		36.70	37		52.74	5		50.00		
Var. of pattern	7		24.86	24.92		111		35.16	34		53.37	5		50.00		
Complexity of rhythm	6		25.56	24.99		111		49.49	36		52.70	4		47.99		
TYPE																
Severely classical						31	1.90		18		4.83					
Popular classical						29	1.76		3		4.67					
Semi-classical						30	2.63		6		6.17		1	9.00		
Hit Parade popular	5	9.00			72.58	8	3.87		6		8.00		1	10.00		
Connoisseur's pop.	1	9.00			14.51	22	3.50		6		7.00		3	7.00		
Country-western					12.90				2		7.50					
Novelty																
PERFORMANCE MEDIUM																
Solo:																
Female voice	2	10.00			44.44				4		6.25		2	7.50		
Male voice	3	8.33			55.56				4		7.50		1	9.00		
Piano						1	3.00		4		5.50					

Favorite Vocalist. Perry Como.

Favorite Instrumentalist. Benny Goodman.

Rank Order of Preferred Types of Music. Sweet popular, hot popular, light classical, folk music, hymns, severely classical, hillbilly.

Outstanding Musical Experience. Omega heard a jazz concert by an "all-star cast" of famous popular musicians in an army sponsored show.

Record Library. He possessed a somewhat large collection of recordings which were all of the popular music type except a very few semi-classical pieces. Even the latter were usually performed by popular music singers and instrumentalists in special arrangements. The popular music choices were about equally divided between Hit Parade and connoisseur's popular music. All-instrumental arrangements outnumbered vocals about four to one. The performers were considered to be, with few exceptions, outstanding performers of "good" jazz and their recordings displayed considerable technical proficiency and skill in improvisation.

Daily Log Yield, Five Preferred Recordings, Keston Musical Preference Test Score

Daily Log. Considering the large record collection

Omega possessed and his enthusiasm for popular music in general, it was surprising that he turned in only fourteen cards. He once mentioned however, that academic demands at the university restricted his opportunities for playing and listening to music as much as he would like. Only two of the fourteen cards were descriptive of a type of music other than popular. These were the only two rated negatively and were descriptive of two classical compositions. His comment indicated a keen appreciation for unusual instrumental and vocal tone colors, clever arrangements, authoritative performances, "smooth melodies," and "bouncy" rhythms.

Five Preferred Recordings.

- (1) Stardust - Carmichael (Glenn Miller)
- (2) Ave Maria - Schubert (Perry Como)
- (3) I'll Remember April - Stan Kenton (June Christy vocal)
- (4) How High the Moon - Stan Kenton
- (5) Sing, Sing, Sing - Benny Goodman

Keston Test of Musical Preference. Omega ranked lowest among the twelve subjects with a score of 143.48. (The "worst" possible score is 159.6).

Interpretation of Musical Criteria Scores

Tone Color. Omega liked brass and percussion instruments, piano and guitar, and male and female voices.

Strings were acceptable only when they were part of an

arrangement of a popular music score but were not tolerated when heard in the symphony orchestra and especially in the string ensemble. He had a decided preference for unusual colors produced by unorthodox voicing of dance band instruments and voices. This was a prime determinant of his preferences in the popular music category.

Staccato-Legato. His free choices usually showed a preference for legato melodies with a rather staccato background. The total effect was legato a little more than half the time. In forced choices this appeared to be negated somewhat, although much of this was attributable to his preference for a type of music (popular) which overrode consideration of any other type of music, regardless of staccato-legato content or any other content.

Tempo. When judged by this criterion the music showed no noteworthy tendency except that the tempo of the music he preferred was invariably steady.

Sedation-Stimulation. Omega's preferences varied widely when judged according to this criterion, although there might have been a slight tendency toward a preference for sedative music.

Dynamics. The great majority of Omega's preferences ranged from mf to ff in dynamic level with the loudness level for any one piece most often variable.

Harmonic Structure. As would be expected, his preferences exhibited a modern popular chord structure to the exclusion of nearly all else. Very few of the forced choice items which contained an impressionistic or simple chord structure were ranked high. His preferences contained little or no modulation.

Rhythm. The prominence of the rhythmical pulse varied widely among those pieces ranked highest, but there was a slight tendency toward a pronounced pulse. Most often the pulse was consistently prominent and of unvarying and simple pattern. A few pieces with complex rhythms were well-liked.

Formal Structure. Nearly all compositions that were ranked high were written in a simple song-form, had regular phrases, and contained much repetition.

Type. As has been noted above under "Daily Log" Omega preferred popular music almost to the exclusion of every other type. Semi-classical music found little favor with him. He heartily disliked serious classical music. Type appeared to be the most important single determinant of his musical preferences.

Performance Media. Male and female solo voices, small mixed vocal ensembles, small female vocal ensembles

with dance band accompaniment, and dance band instrumental pieces accounted for virtually all of Omega's voluntary listening.

Summary Statement

Popular music, particularly connoisseur's popular music, was the prime influencing factor in Omega's preferences. He liked unusual tone colors found therein and usually was drawn to a "smooth" melody over a moderately pronounced but rather uncomplex rhythmical background. The formal structure was simple and straightforward while the harmonic garb was often bizarre and exotic.

It has been evident in this chapter that the interpretation of any one musical preference score often had to be made in relation to the scores of other criteria. The manner of interpretation of the musical preference scores is quite similar to that of the Rorschach Personality Test scores; virtually all scores must be interpreted in relationship to many other scores - some more so than others. In some instances, contradictory data could not logically be reconciled, while in other instances there appeared to be a reasonable explanation of the contradictions.

It will take many years to evolve a musical preference test as sophisticated as, for example, the Rorschach Personality Test. In the development of new techniques

such as these, each step of the investigation reveals refinements and perhaps the necessity of major revisions which should be made. In the following chapter recommendations are made for the improvement of the techniques.

CHAPTER VI

CRITICISM OF THE TECHNIQUES EMPLOYED

It seems appropriate, at this point, to review critically the techniques used in this study with regard to the tests and measures employed, particularly the musical preference tests, their administration, and the means and methods used to record, collate, and extract data. The purpose of such criticism shall be to emphasize and recommend those features which have proved to be valuable and to discard those which have not, in the interests of more valid and efficient investigations in this area in the future.

Criticism of the Psychological Tests

The psychological tests are, for the most part, well-known and respected by people in the profession, and the picture they provide of the subject's personality may be viewed with reasonable confidence in its validity. Since the battery of psychological tests used in this study was chosen, administered, scored and interpreted by three professionally qualified persons in the field of psychology, it would seem proper to assume that the data thus provided is valid. Before the psychologists began their testing,

they were briefed on the general nature and purpose of this study so that the psychological data could be presented in a form which would be understandable to the reader who is not extensively trained in the field of psychology.

It appears now that it would have been advantageous to have had the psychologists predict each subject's musical preferences on the basis of what had been learned about his personality. This would have established an interesting, and perhaps important, means of validation of the scores each subject made on the tests of musical preference.

Criticism of the Measures of Musical Preference

It will be remembered that three of the four measures of musical preference were devised especially for this study. The fourth, the Keston Test of Musical Preference, was the only measure which had been constructed for a related but different purpose, that purpose being to rate subjects on a scale indicative of preference for aesthetically "good" music, as determined by the expert in "serious" classical music. This test had the advantage of having been somewhat better standardized than the other tests.

The other three tests or measures were so constructed as to be more pertinent to the problems in this study and at the same time were designed to attack the problem from separate angles.

Daily Log

The Daily Log was considered to be one of the most valid measures of musical preferences, since it was primarily a record of what the subject voluntarily listened to and an indication of his reaction at the time of listening. The major criticisms which may be directed against it are criticisms of its use rather than its inherent value. In some cases there were too few Daily Log items returned to the investigator so that a comprehensive and detailed picture of the listener's choices could be noted. This could have been corrected by extending the period of time during which such information was being gathered. At times the recording listed on the card was not available for one reason or another. This made it impossible to effect an analysis of the music. In spite of these obstacles, the Daily Log provided the bulk of the pertinent musical data collected for the study.

Forty-Eight Excerpts Test

The Forty-Eight Excerpts Test was designed to present a subject with a wide array of short excerpts, homogeneous in style and content, which he was to rate on an affective scale. After considering the data it provided, several major improvements appear to be needed. First, the test should have been more comprehensive and representative

of the gamut of musical literature. Second, it would have been advantageous to have had several sub-tests, each one a comprehensive and representative collation of musical excerpts of the same aesthetic type of music. Perhaps one or more types could have been combined; for example, popular classical with semi-classical excerpts, or semi-classical with Hit Parade popular excerpts. The primary test would have served to indicate whether a subject tended to use aesthetic type, which many do, as the crucial criterion for determining his preferences. After this was known the subject could have been presented with an array of varied musical excerpts from that particular aesthetic type or types he preferred, as well as an array from his most disliked aesthetic type. This would have helped to determine whether there were musical factors other than type which influenced preferences.

It is not to be inferred that this test was useless; on the contrary, it provided much valid and reliable information. It is still considered a useful tool, but needs further refinement.

Five Preferred Recordings

The Five Preferred Recordings presented the desirable feature of a completely free choice to the subject, as did the Daily Log. The only restriction consisted in

the limitation to five recordings and, in the case of extended works, to those portions which were most affective. In the other tests and measures there were a great many either free or forced choice items which, when averaged and tabulated, tended to conceal or make insignificant the few extreme or spurious preferences. In the case of the Five Preferred Recordings there were only five compositions which, when averaged and tabulated, sometimes seemed to be at variance with the picture posed by the rest of the data. This, of course, had to be taken into consideration when interpretations were made. But even so, these five recordings represented the best-liked music of all musical literature; and it must be assumed that the subject's list was carefully selected. Thus, it represented a highly valid indication of his musical preferences.

It would be revealing and advantageous in future studies to ask the subject to verbalize more concerning his likes and dislikes for the various items in all the tests, but especially about those in the Daily Log and Five Preferred Recordings. Verbalizations would be of great help in seeking answers to the question of "why" a person prefers what he does. It would be of less importance, but still helpful, to determine "what" is the nature of his preferences. This study has been concerned primarily with the latter.

Criticism of the Criteria By Which the Music Was Judged

The criteria by which all music was judged were arbitrarily chosen, although such choices were based upon a logical frame of reference. Because esoteric criteria of music are often vague and debatable, they were avoided in favor of criteria which were concerned with more or less objective characteristics of the music. It was not known at the outset which of these criteria would be pertinent or reliably informative concerning the individual's musical preferences. In order not to exclude unwittingly a criterion which might prove to be important it was decided to include all criteria which might possibly yield informative data. These criteria are those which might be chosen by any individual professionally trained in music.

It is now known that some criteria are of extreme importance in the assessment of musical preferences while others are of doubtful value, and still others may be discarded in future investigations of this sort. Following are all the criteria used in this study with a brief discussion of their relative importance. The order of their appearance indicates generally the importance they seemed to have in this study.

Type

The aesthetic type of music was a prime determining

factor of choice for a majority of the subjects. If a subject liked a certain aesthetic type of music he liked it to the exclusion or near-exclusion of every other type of music. This was particularly true of those types far removed from each other on the conventional aesthetic scale, such as severely classical music and country-western music. This was of such importance that some of the tests should be altered in construction to capitalize on this common occurrence. (Cf. pp. 272-273 for suggested changes in the Forty-Eight Excerpts Test).

When aesthetic type did not appear to be a prime determinant of musical preferences, then most often there were other features common to all aesthetic types which appeared to be of greatest importance. Occasionally some of these features are combined in such a way that they are found only within a particular aesthetic type, which means that the subject is even more "particular" or restricted in his musical preferences.

Naturally, some aesthetic types, for example, Hit Parade popular and country-western music, predetermine the style and content of the music to such an extent that the results are stereotyped. This is particularly true with regard to the degree of regularity and simplicity found in phrase structure, the employment of harmonic devices, and rhythmical patterns. On the other hand, the more complex

and subtle the aesthetic type, the greater will be the variability when music is judged by these criteria.

Rhythm

Perhaps of the next greatest importance to the majority of the subjects was the effect of rhythm upon their preferences. This was especially true of the relative prominence of the rhythmical pulse to the tonal complex of which it was an integral part. Rhythm appeared to be the primary unifying force for most subjects. As rhythmical elements in the music became less apparent, and/or particularly when they became more subtle and complex, those subjects who preferred the less complex aesthetic types of music tended to register more and more dislike. This does not mean that the subject who genuinely liked classical music necessarily rated it low when strongly rhythmical elements were present. When rhythmical elements were not strongly apparent, such subjects found other features in the music which gave it meaning and direction.

Staccato-Legato

It is apparent, of course, that the interpretation of the scores of a particular criterion must not be made independently of scores of other criteria. For example, a staccato melody cannot exist except in relation to pitch,

duration, rhythmical pattern, tone color, and, perhaps, tempo. Most of the subjects tended to prefer, on the whole, either legato or staccato melodies. This does not mean that they preferred legato melodies to the exclusion of staccato melodies, or vice versa, but that the majority of their musical preferences tended toward one extreme or the other. Such tendencies were more pronounced in the preferences of some subjects than in others. The judgments made concerning the degree of staccato-legato for both the prime melody and its background provided more sharply defined data than did the judgments concerning the total effect, since a legato melody averaged with a staccato background often fell at the mid-point (50.00) on the scale and revealed little of the true nature of the composition with regard to this criterion.

Tone Color and Performance Media

These two criteria are so mutually dependent that they are discussed here together. Naturally, a dance band or symphony orchestra precludes a certain complex of tone color when viewed in its grossest aspects. As will be noted in the following chapter, tone color was an important determinant of preference for nearly half of the subjects. It was not so much a matter of the subject's like or dislike for a particular instrument or voice as it was the

combination and voicing of instruments and voices typical of a particular aesthetic type of music. Harmonic structure also is closely associated with tone color. This would seem to indicate that judgments of tone color would be more valid if criteria other than the listing of the presence or absence of particular instruments were employed. Perhaps it would be better procedure to judge tone color in terms of combinations of instruments or voices as well as in terms of single instruments and voices.

Tempo

It was somewhat surprising to note that there were only a few subjects who more or less consistently preferred music that was either fast or slow. The great majority seemed to prefer music which varied in tempo from one composition to another or within the same composition. In most cases it appeared then, that variety was preferable to sameness in tempo. Although tempo is an important criterion for the judgment of music, it appears to be less autonomous in its affect than has been widely assumed. The psychological impression of speed in music is particularly dependent upon other musical factors such as accent, loudness level, note values, staccato and legato sound, and the prominence and conformation of the underlying rhythmical pattern. (Cf. pp. 92-95). The wisdom of judging tempo on

the basis of the total psychological effect the music produced, regardless of the metronomic reading, has been substantiated.

Dynamics

It was difficult, and in some cases impossible, to make a reliable appraisal of the loudness level as it actually was heard by the subject for those compositions appearing in his Daily Log and Five Preferred Recordings. Environmental conditions at the time the music was heard had a controlling effect on the loudness level. Personal preferences for loudness levels further complicated the problem. Probably it would be advisable in future investigations to set up a test situation where the individual's preference regarding this single aspect of musical performance could be evaluated.

Variability of the loudness level is often a marked characteristic of classical music and is not often a characteristic of popular music. The loudness level of the latter is seldom less than mf. Judgments regarding such variability were of considerably more value in making an appraisal of preferences for loudness than was the judgment concerning the "predominant or characteristic dynamic level."

Sedation-Stimulation

Sedation-stimulation is, in reality, a by-product of the dynamic characteristics of music - especially, staccato-legato, tempo, rhythm, and loudness level. It may be considered as a means of validation of the preferences for these last named characteristics; i.e., a person who prefers legato, slow, non-rhythmical, and soft music prefers, in other words, sedative music.

Since music may be sedative or stimulative because of unique and personal affective factors appearing in the total tonal complex, it cannot always be known what pieces will prove to be stimulative or sedative for the individual. The person making these judgments in an investigation such as this must, perforce, be wary of his own reactions lest the judgment be biased toward a contradiction of majority opinion.

It is recommended that judgments be made only of the "over-all degree of sedation-stimulation." Judgments of the variability of this criterion are even more susceptible to individual bias because of their highly subjective nature and, in this study, at least, did not prove to be reliably informative.

Formal Structure

Judgments of the "over-all formal structure,"

although quite objective, provided data which was of much the same qualitative nature for all the subjects. This may be accounted for by the fact that the great majority of compositions which were readily available to the subjects were homophonic rather than polyphonic. Of much more value were the judgments made about the particular form in which the music was written. These were labeled simple song-form, complex song-form, regular large form and irregular large form. These categories could have been improved had they been extended and renamed so that the most common musical forms, other than song-forms, were included. Such forms are the sonata-allegro, rondo, theme and variations, and fantasia or free form.

Judgments regarding the regularity of phrases, and especially the amount of repetition, revealed consistent patterns when the scores of the subjects were compared.

Categorization of the music according to whether it was abstract or programmatic provided data which was inconclusive, largely because comparatively few abstract compositions appeared in the Daily Log and Five Preferred Recordings lists. Virtually all popular, country-western, and semi-classical music must be categorized as programmatic. Classical music seems to be about evenly divided between these two categories. It will be seen then, that a preference for a particular aesthetic type of music precludes into what category the music will fall.

Harmonic Structure

A preference for a particular aesthetic type also precludes the categorization of chord structure, although some aesthetic types, notably classical music, are written in a number of different harmonic styles. Popular music tends to fall into two different harmonic styles, each of which is roughly homogeneous in content. For that reason, it would have been advantageous to have had two categories in place of the one labeled "modern popular" chord structure. They might have been labeled "conventional popular" chord structure, and "progressive jazz" or "unconventional popular" chord structure.

Judgments concerning frequency of modulation had a limited value. Again, "much modulation" is most often found only in classical music and rarely in music of other aesthetic types.

Judgments concerning mode and consistency of style were of no apparent value and may be eliminated in future studies of this sort.

Pitch Range

Pitch range did not prove to be of any value whatsoever, because virtually all of the music analysed extended over a wide pitch range (as defined on pp. 99-100) with the result that there was no opportunity to make comparisons of preferences for low, middle, or high tessitura.

Sonance

The same type of criticism is applicable to sonance as was made for pitch range. There were extremely few compositions which were judged to be dissonant, and only a few more which were judged to be mildly dissonant. The problems involved in the subjective evaluation of dissonance have been discussed on pages 100-101.

Summary Statements of Criteria

It appears then, that for most persons, a preference for a particular aesthetic type or types of music is of primary importance in directing their choices in music. Often such a preference precludes the presence or absence of certain characteristics of the music, notably harmonic and formal structure, and tone color.

Also of great importance in the affectiveness of music are its rhythmical, staccato-legato, and tone color characteristics.

Of somewhat less importance are the characteristics of tempo and dynamics. At least, it appears that judgments should be based more upon variability of these characteristics rather than on a judgment of the over-all effect they produce for any given composition.

Rhythm, staccato-legato, tempo, tone color, and loudness level are the primary determinants of the stimulative

or sedative affects of music. Occasionally a composition which is judged to be sedative may actually prove to be stimulative to an individual for unique and personal reasons. The opposite may occur as well. However, these are comparatively rare occurrences and if the music is judged in terms of its probable effect on the majority of people, it should prove to be a useful tool for investigation.

Judgments of pitch range and sonance did not provide any data of importance, largely because nearly all compositions were judged to be written in a "wide range" and in "consonant" harmonies. Comparisons could not be made because very few or no compositions fell in the other categories of pitch range or sonance.

Criticism of the Techniques of Recording, Tabulation, and Extraction of Musical Data

These techniques are, to the best knowledge available at this time, unique in their form and application. On the whole they would seem to prove to be satisfactory for preliminary investigations such as this. Some improvements may be noted, however, which appear in the following paragraphs.

Reaction Form

This simple form served its purpose quite well. It asked for (1) a reaction, (2) identifying information

concerning what the music was and how and where it was heard, and (3) what features of the music were especially liked or disliked. The last request was either not clearly understood by most subjects, or required a response which could not adequately be put into words. More detailed verbal instructions and illustrations would have helped the subject to express himself in a more pertinent and informative fashion.

Master Sheet

Revisions of the master sheet should be made in accordance with the criticisms noted in the preceding major section, which is headed "Criticisms of the Criteria by Which the Music Was Judged." (Cf. pp. 275-284).

To record by hand a continuous trace which represents tempo, tone color, staccato-legato, and loudness level, requires a fair degree of skill which can only be acquired after several weeks of practice. Perhaps some of this work could be taken over by mechanical and electronic devices. For example, the graphing of loudness level could easily be accomplished with commercially available devices. However, in most cases it is better to rely upon the subjective judgments of a trained person rather than the objective record, because the data provided by a device would have to be reinterpreted in terms of the subjective

impressions of music upon which all listeners, in the last analysis, must rely. When music ceases to be a matter of subjective judgment it ceases to be an art.

It would have been advantageous at times to have made a quick appraisal of the composition as a whole. If the judgments of all criteria had been briefed as much as practicable and recorded in a single small area on the master sheet, such an appraisal could have been made.

The IBM Code System

There is little doubt that the use of IBM cards for the purpose of quick sorting and easy tabulation have saved, literally, hundreds of hours in the handling of the data in this study. The use of such a system would seem to be mandatory in investigations similar to this one where the subjects would number many times the twelve subjects involved here.

Whenever samplings are large enough that some sort of sophisticated statistical analysis is appropriate, the IBM cards could easily be set up in such a way that electronic calculators could also be used. Weeks of labor in computation would thereby be saved.

The technique of analysis of the music found on recordings, the noting of such data on the master sheet,

and the coding and transference of this data to IBM cards seems to have worked well. There are, of course, mechanical improvements which could be made from time to time as the need for them arises and as science and industry develop devices which can serve the purpose.

CHAPTER VII

INTERPRETATION OF THE RESULTS

A great deal is now known about each subject's musical life, and the large mass of data which has been collected indicates, in a number of instances, fruitful paths for future and more elaborate studies in this area. In some cases they are mere inferences, while in others they appear to be so obvious that they should warrant investigation with much confidence in the probable outcome. Following is a discussion of the most noteworthy features which appear to be substantiated by the data.

Congruence of Personality and Musical Preferences

The fact that every subject's musical preferences were what would be expected after a knowledge had been gained of his personality structure will not be surprising to most people. The psychologist after one of his analyses probably could predict with considerable confidence the gross aspects of the subject's musical preferences. In future studies, these predictions could, in fact, serve as one means of validation of the musical tests. There is a danger, of course, in a posteriori judgments regarding the congruence of personality and musical preferences,

being in reality were intellectual deductions or rationalizations, based upon selected data which conveniently fit a neat conclusion. That such a thing would be done intentionally is unthinkable, but the hazard of good intentions and deficient insight remains.

Occasionally there existed features of the musical preference picture which seemed to be contradictory to the subject's personality. This, however, did not occur often and in most cases could probably be accounted for by errors in the tests, especially the musical tests. On the other hand, such contradictions may not have been spurious, but may have existed because the data was incomplete rather than inaccurate. Regardless of these few inconsistencies, major features of the individual's musical preferences stood out, and were complementary to his personality structure.

For the majority of the subjects a preference for a particular aesthetic type of music was such an overwhelming factor that it determined, or at least strongly colored, the majority of scores. For example, if a subject preferred popular music to the exclusion of any other sort of music, this meant that because popular music is stereotyped when judged by most of the musical criteria used in this study, there was little variability with respect to harmonic and formal structure. Such a subject

experienced a rather constricted range of musical stimuli considering the vast number which are available.

Narrowness of musical interests seems to be determined more by a poverty of musical or cultural background than anything else. Musical background is achieved through expansion and discrimination of the affective responses to musical stimuli. Some subjects who had had considerable musical training in elementary and secondary school were still narrowly constricted in their choice of aesthetic types of music. The subject who assumes that any music of his preferred aesthetic type is good or affective and anything else is not is basing his assumption on a priori judgment, with the result that his musical interests remain narrow.

Effect of Upward Mobility on Musical Preferences

Upward mobility is here defined as the overt striving of the individual to experience and become a part of a higher cultural and intellectual level as determined by his society. This striving reflects itself in his choices in music as well as in other areas. The result is that some of the indicated responses are spurious when genuine aesthetic values are weak or absent. Naturally, severely classical and popular classical music must be rated high to be compatible with his upward mobility. Lambda and

Phi, for example, who made the best scores in the Keston Test of Musical Preference were consciously striving to seek a higher cultural level and thus consistently rated classical music high and popular music low, but both possessed genuine aesthetic awareness.

In spite of the conscious selective factor involved here it becomes difficult, if not impossible, to conceal true preferences provided the tests are searching and comprehensive. Factors such as tempo, dynamics, rhythm, formal and harmonic structure, and the like, are common to all music. Tendencies and saturation points may be noted and will form a pattern for any individual regardless of whether his preference for an aesthetic type is genuine or sham.

The Relationship of Musical Experiences to Need Structure

The axiom that people choose and respond to music according to transient and long-term needs seems to be self-evident. The fact that transient needs vary qualitatively and in intensity is, perhaps, the prime reason why battery and long-term testing for musical preferences is an absolute requirement before the stable and all-pervading factors which shape and direct these preferences can be revealed.

Needs may be felt and expressed at either the

conscious or unconscious level. The psychologists in this study have used the terms "overt life-plan" and "covert structure." A great many variables are present at both levels and not only vary qualitatively but often are, at least in part, in conflict. Overt strivings and covert needs may be at variance and when seriously at variance with little or no sublimation or rationalization present the individual exhibits neurotic or psychotic behavior.

The need for musical experiences is weak or strong, depending not only upon the strength of libidinal drives and ego-goals but also to the extent which they are diverted and sublimated in aesthetic, aesthetic-sensual, and aesthetic-social channels. Both overt and covert needs are powerful influencing factors for the individual in the amount of his experience with music, the type of participation, the relative constriction or expansiveness of musical experiences. His responsiveness to music for its own sake or because it serves as a vehicle for other, non-musical purposes such as recognition, social approval, sublimation of libidinal drives, or mere sensual revelry are also strongly influenced by his needs.

Perhaps examination of each subject's musical preferences with particular reference to his overt strivings and covert needs may serve to illustrate the above discussion more clearly.

Beta had strong libidinal drives but was without an ego-ideal, with the result that there existed much conflict between her covert needs and the demands of her environment. She spent much time daydreaming of other pleasant times and places, and it was noted that her comments concerning her musical preferences revolved around the pleasant associational ideas the music aroused. Her musical preferences had a pronounced romantic content, although not of the cloyingly sentimental sort. Her musical tastes were eclectic, which might well be expected of a person for whom cultural values were important only as a means of social acceptance. In any case, her aesthetic experiences bordered on the merely sensual since she covertly felt a need for a warm, familiar, nurturant environment which would produce a state of euphoria. Music seemed to serve as a link with a fantasied, friendly past. The romantic lyrics, conventional, obvious melodies and harmonies, and simple repetitious phrases of typical semi-classical and commercial popular music are logical preferences of one whose aesthetic interests served the major purposes of sentience and cultural acceptance.

There were two major features of Lambda's personality which were pointedly emphasized in her musical preferences. First, Lambda viewed cultural pursuits as both a means of indirect experiences with life and a worthy, socially

acceptable method for moving upward in her society. Secondly, having largely withdrawn from human ties, and of necessity having become more self-reliant, her covert needs were satisfied by narcissistic means to a large extent. Thus music, to which she spent many hours listening, served to facilitate her upward mobility and at the same time to stimulate within her, pleasant states of self-contained well-being. Her striving for a higher cultural level was reflected by her stated preference for classical music. Her preferences for classical music were quite unsophisticated. Romantic, smooth-flowing music typified by much string color was the sort of music which most often induced a state of narcissistic gratification. Libidinal drive was rather low, and what conflicts had existed were carefully sublimated through turning inward for her gratifications.

Mu had low-strength libidinal drives and there appeared to be little or no conflict between overt strivings and covert needs, primarily because he would not stay in a situation productive of conflict. A blend of religious and social values was rated highest. The religious element was pronounced in his musical preferences. The Spranger aesthetic value was rated next to last. His musical preferences were again compatible with his personality, being mostly sedative and simple in form and content. It is

interesting to note that commensurate with his avoidance of conflict situations he also disliked dissonant, complex, heavily rhythmical, rapid, and staccato music which often is descriptive of conflict, struggle, and tension.

Pi sought emotional warmth through the media of vicarious stimulation. He was very sensitive to exciting elements in his environment and at the same time felt it necessary to repress many of the feelings which they aroused. His values were so dispersed and ill-defined that it was impossible to rank-order them intelligently. In any case, the aesthetic value appears nowhere with distinction. Pi's musical preferences were confined to the most obvious, uncomplex compositions found in country-western, Hit Parade popular, and semi-classical literature. His comments indicated that absolute clarity of musical form and content were necessary prerequisites of the music which he rated highly. His choice of staccato, rather fast, heavily rhythmical, and loud music seemed also to serve his need for stimulation and provided a socially acceptable medium of response which did not need to be repressed.

Rho's personality was quite similar in most respects to Mu's personality; this similarity also was apparent in their musical preferences. Rho's libidinal drives were low, and since she sought contentment and harmony at almost any

cost, which she most often achieved through repression and submission, there appeared to be little conflict between her overt and covert structures. Although, like Mu, religious values were rated highest, aesthetic values were rated considerably higher than they were by Mu. This, together with a more extensive and discriminating cultural background may account for Rho's preference for a more subtle and complex type of classical music than was Mu's. One of the few recognitions of ability Rho received was to have been selected to accompany school and church groups on the piano. Her mother both played and taught the piano and, it will be remembered, was quite dominating. Perhaps this accounted for Rho's pronounced liking of piano music - especially the grandiose concerto. Like Mu, the great majority of her musical choices were sedative and, even though at times written in the larger musical forms, were still clear-cut and conventional in harmonic and formal structure.

Sigma, product of an inferior cultural environment typical of his minority ethnological group, aspired to a higher cultural level and found in music a medium for satisfying two basic urges - cultural acceptibility and autonomous sentience. Aesthetic values were rated rather low and it was entirely probable that his interest in a rather wide range of aesthetic musical types was part of a more or less

conscious pose compatible with his upward mobility. His sensual needs were partially sublimated in aesthetic channels, music ranking importantly. His musical choices were notable for their display of color. His hypercritical remarks concerning genuineness of performance seemed to be, in reality, complaints regarding a style of performance which did not reach and gratify the sensual in his personality. This may also have been another attempt to attract attention through exhibition in the role of a sophisticated musical expert. It is not surprising that he often listened to and rated highly, music performed by members of his ethnological group. From the standpoint of musical form and content Sigma's preferences were uncomplex and conventional.

Tau's musical preferences were particularly restricted and superficial. Aesthetic values were rated low and, for him, served only utilitarian purposes. Social and economic success was so energetically pursued that Tau was willing to let society call the pace even if it meant the sacrifice of his own self-respect and self-direction. His libidinal drives were strong, finding no sublimation in aesthetic channels. Environmentally there was no conflict because he lived among those who shared and approved of his values. Tau spent little time listening to music, and when he did, it rarely had more than a very moderate

appeal for him. The great majority of compositions, he rated at the level of indifference or lower. What little he did rate positively was extremely simple, repetitive, heavily rhythmical, loud, staccato, and very often satirical or whimsical wherein the music served only as a vehicle for a rather adolescent type of humor. His Five Preferred Recordings showed an almost unbelievable lack of sophistication and aesthetic discrimination for someone who was pursuing a college education.

Covertly, Upsilon had an insatiable need for approval and affection from others and a harmonious easy-going existence. He did not want, however, close emotional ties, and apparently felt no need for affiliation, sex, or excitement of a sensual sort. He was sensitive to exciting stimuli in the immediate environment only when nothing sexual or aggressive was implied. Aesthetic values were rated lowest even though he assumed a pose of cultural sophistication. This was, in reality, merely an attempt to insure other people's interest in him. His musical preferences were superficial and restricted in style. He spent very little time listening to music, and when he did it was usually through the media of live performances such as musical shows, bar music, and at dances. Apparently he was more concerned with excellence of performance than he was with the affective implications of the music. Those

compositions which he rated high were nearly always staccato, loud, percussive, strongly rhythmical, often with complex rhythmical patterns, and were at the same time light and frivolous in content. His choices were rarely dramatic, subtle, or of even moderately complex form. His admonition regarding what little music he voluntarily listened to seemed to be, "Keep it light and gay."

Even though aesthetic values were rated fourth by Phi in the Spranger system, the psychologists noted that they appeared to be undeveloped rather than truly lacking, and that her interests in music reflected both an upward mobility and a dawning appreciation of classical music. Because she experienced strong sexual and aggressive urges she attempted to deflect them in her overt actions by avoiding a wide range of stimulating experiences in her everyday life. Latent homosexual tendencies were in conflict with her efforts to conform to the laws and mores of her society. In conformity with her upward mobility and developing aesthetic sensitivity, Phi much preferred classical to other types of music. This music varied considerably when judged by most of the musical criteria, but there was a rather definite tendency toward a preference for sedative music. Another corroboration of aesthetic growth was her liking for much abstract music and music performed by legitimate string ensembles. A peculiar facet of her preferences

was her preference for both fast and loud as well as slow and soft music while she rarely preferred music which fell between these extremes. The fact that she was developing a set of genuine aesthetic values, as evidenced by her increasing enthusiasm for classical music, and had very high intelligence infers that there may be significant positive correlation between superior intelligence combined with aesthetic values, and a preference for what is considered by the serious musician to be the best in musical literature.

Chi displayed an "enormous" lack of internal organization, being passive, masochistic, immature, and giving evidence of latent homosexual tendencies. His libidinal drives were low and he solved most of his conflicts by means of the behavior patterns mentioned above. He did so at the sacrifice of satisfying his needs for asocial sources of excitement, recognition, acquisition, and retention. He had no hierarchy of values; and mere sensual gratification appeared to be the only evidence of an aesthetic value. His range of preferred musical types was very narrow, consisting almost entirely of Hit Parade popular music of the most conventional and banal sort. He noted and disliked complexity and subtlety in music, even when it rarely appeared in popular music. Most significant was his preference for the male voice. There would seem to be a positive

correlation between this preference and homosexual tendencies. His choices, when judged according to musical criteria other than those which most readily identify the popular music type, showed no consistent or clearly defined tendencies. This may be attributable to his aforementioned lack of internal organization and lack of a hierarchy of values.

It is fortunate, as the psychologists noted, that Psi had low libidinal drives considering her constant state of inner anger and propensity for acting arbitrarily in contradiction to obvious and logical modes of behavior. Her aggressive urges were firmly repressed and she avoided conflicts by submitting to recognized authority. There did not appear to be a vestige of genuine aesthetic interests. Other than a preference for a simple, slightly sedative, and romantic type of music, Psi's choices showed little coherence and few noteworthy tendencies. Music did not appear to be very important to her. Her comparatively frequent choice of mixed and male choral ensembles probably may be accounted for because of her frequent participation in church, school, and home music-making sessions. Lacking the necessary aesthetic values, her fairly extensive musical training and frequent exposure to musical experiences (probably of a very amateurish sort) had little effect on her musical growth and ability to extract affective

stimulation from music. Psi noted such incomplete identifying information on the Daily Log cards that only a very few of these compositions could be analyzed in detail. This may have been an unconscious expression of her aggression and arbitrary behavior in the face of explicitly detailed instructions.

Omega had a strong and difficult set of drives with which to cope. His covert needs were compatible with his overt strivings and values since he strove to repress those urges which were asocial, not because of any moral or ethical inhibitions, but because uncontrolled expression of these would cut him off from society and thwart any attempts to achieve his ego-ideals. He had voyeristic homosexual cravings which found sublimation in his choice of career - that of a doctor. Music had been considered as a vocation at one time. He had strong sensual appetites and his highest value in the Spranger system was aesthetic-sensual. Culturally, his background was rather poor. Music served primarily to arouse pleasant states of excitement through the medium of "jam" sessions. When not playing himself he chose popular music which was distinguished by the skill with which it was performed, especially in the matter of free improvisation. He reveled in exotic, bizarre colors produced by unusual voicing of instruments. Color seemed to be the prime determining factor in influencing

his preferences in popular music. Smooth melodies against a pronounced rhythmical and staccato background appealed to him. He much preferred direct outlets for his sensual drives to sublimations of them. He asked this investigator several times if he knew of a dance band that had an opening for him. Although he indicated that he could spare the time from a very demanding course of pre-medical studies to play in such a group, paradoxically he also indicated that he could not spare much time to listen to music. His musical preferences reflected his narcissistic nature and his craving for sensual gratification achieved in part, at least, through listening to or playing richly colorful music of a sophisticated popular type.

Integrational Level of the Personality as Related
to Definitiveness of Musical Preferences

It may have been noted in the discussion of the previous section that there appears to be a relationship between how well-defined, coordinated, and self-determined the personality may be and the coherence and consistency of musical preferences. The person who has low drives and lacks ego-ideals or goals tends to show more inconsistencies in his musical preferences, and has less of a concept of what his preferences really are. This becomes even more apparent when aesthetic values are rated low and when music has a weak valence for the individual. The "stronger" the

personality, or at least the more clear-cut and attainable are the goals of the individual, the more explicit and consistent seem to be the choices of music. If music truly serves dominant needs such as sensual gratification, social acceptability, upward mobility, social integration, or genuine aesthetic appeal, then the picture of the musical preferences for an individual who has these needs is much more clearly defined and is more easily understood in terms of his total personality structure.

Relationships Between Musical Preferences and Certain Rorschach Scores

Much skill is required to administer and interpret the Rorschach scores. Such skill usually can only be acquired after securing considerable background in psychology and a year or so of intensive training in the Rorschach Test itself. The discussion which follows is a result of conferences with the psychologists who did the testing, wherein they pointed out where logical relationships between Rorschach scores and certain features of musical preferences might be found.

Of particular promise for future investigations is the apparent relationship between the c, cF, and Fc scores and a preference for music which is exciting and colorful. These scores are the "surface texture" responses, and have to do with the subject's emotional life. Singly they

usually are not significant in themselves, but must be interpreted in relation to many or all other scores. The pure c response indicates a form of sensuality which is not controlled by reason or self-criticism. However, in the artist or craftsman it may reflect a professional interest in the texture the blot seems to depict. When responses are given wherein texture is matched appropriately with form, it is an indication that reason (F) is present and is exerting a controlling influence over rampant sensuality. As the influence of reason gradually becomes more apparent, there is a shift from c to cF to Fc. The increasing influence of the F factor does not necessarily mean that sensuality has been transmuted into an aesthetic feeling. It may mean that sensual appetites have found satisfaction in socially acceptable ways. This may be reflected in fastidiousness and love of "the good life" wherein good food, fashionable clothes, and general comfort and well-being are important sources of satisfaction. Quantity as well as quality of responses must be present before an interpretation may be ventured that the subject has sublimated his sensual needs in aesthetic channels. In any case, it is generally agreed that all c combinations are a reflection of some form of sensuality. In Table XIII the twelve subjects have been rank-ordered according to their cF and Fc scores. Scores were not given for pure c responses.

TABLE XIII

SCORES OF THE cF AND Fc DETERMINANTS OF
THE RORSCHACH PERSONALITY TEST

Subject	<u>cF</u>	<u>Fc</u>	Total
Phi	0	61	61
Lambda	0	30	30
Chi	0	23	23
Sigma	10	10	20
Tau	6	12	18
Omega	13	4	17
Psi	3	12	15
Beta	0	12	12
Pi	0	10	10
Upsilon	4	4	8
Rho	0	5	5
Mu	0	4	4

Several legitimate groupings of these subjects may be made, each group displaying an unusual consistency in both their combined c scores and the degree of excitement and color found in their musical choices.

Aesthetic values ranked importantly for both Phi and Lambda. They were striving to reach a higher cultural level, this being validated by the many hours they spent in listening to classical music. Their Fc scores are high and since no cF scores are present, they represent an advanced refinement of sensual appetites. Probably they can both be considered to have sublimated sensual urges in aesthetic channels. They made the two "best" scores in the Keston Test of Musical Preference. Although they seemed to prefer a majority of their music to be sedative, it is well-known that dramatic elements in serious classical music often produce a high level of exhilaration and excitement. Dramatic elements are not always dependent upon fast tempi, pronounced rhythmical pulse, and a high overall loudness level.

Chi, Sigma, Tau, Omega, and Psi, who appear in the order named and below Phi and Lambda in the above table of combined c scores, seem to be a comparable group with respect to both the degree of sensuality present in their personalities and their preferences for excitement and color in music. Aesthetic values were rated low by this

group, with one exception. Omega's aesthetic values were combined with marked sensual characteristics indicating that aesthetic outlets were used primarily and deliberately for sensual gratification. With the exception of a few of Sigma's choices, this group preferred popular music. Sigma and Omega were especially charmed by unusual colors and lush harmonies. Omega was, perhaps, the most sophisticated in this regard. Tau, it may be remembered, listened to comparatively little music, but showed an atypical fondness for "novelty" music. As a group they received pleasure and excitement from music which was obvious, simple, and repetitive in form and content. The legato, romantic melody, scored in the harmonies of typical popular music, and heard against a background that was staccato and percussive provided a continuous, uncomplex stream of rhythmical color which induced a state of euphoria at a simple perceptual level. The pleasant feeling-states induced by this "bath of sound" are analagous to those produced by having one's back scratched.

In the remaining group, which scored still lower, may be included Beta, Pi, Rho, and Mu. The last two subjects are especially alike in the combined c scores and in their musical preferences. It is difficult to place Upsilon properly. Although his total score was 8, he was the only one of this group to score in the cF column which

is an indication of a lower degree of refinement than the Fc score. He may have more in common with the middle group than this lower group. This group seemed to be more alike in the low urgency of their sensual drives than they did in musical preferences. Pi liked extremely simple but stimulating music - perhaps "innocuous" adequately describes it. Beta once remarked to the investigator that she really didn't know what sort of music she liked and doubted that he would be able to "make much" out of the data she supplied. Her choices, however, seemed to fit her personality, but were quite eclectic with regard to most musical factors considered in this study. Music seemed to serve primarily as a means of arousing pleasant memories. Rho and Mu, who made the two lowest combined c scores, decidedly preferred sedative music written with obvious melodies and in easily grasped forms. Most of their choices could easily be considered unexciting with regard to color, tempi, dynamics, and rhythm.

It is not intended to give the impression that there was a perfect correlation between the combined c scores and the level of color or excitement present in the musical preferences of each subject. It is merely suggested here that a significant positive correlation might be obtained if a larger number of subjects could be studied, and with some revision and improvement in the method of judging exciting and colorful elements in music.

Conclusions

1. Personality is certainly reflected in the musical preferences of the individual. Musical preferences as well as the personality are unique for every individual.

2. The more integrated the personality, the more consistent, well-defined, and stable will be the musical preferences. Although there may be some consistencies of musical preference in more or less unintegrated personalities, it is difficult to delineate a complete pattern.

3. The individual chooses music according to his covert needs and overt strivings. The quality and quantity of musical choices seem to be dependent as well upon the presence or absence of aesthetic values and/or sensual appetite.

4. The musical choices of those individuals who are striving to achieve a higher cultural level are more subtle, complex, and reflect a higher aesthetic type of music. It appears that genuine aesthetic values must be present before the individual can achieve such a level. Spurious preferences are relatively easy to detect.

5. If the need for sensual gratification has not been too much repressed, musical preferences will be characterized by much color and excitement. When such needs have been sublimated at the highest levels, the individual tends to respond affectively more and more to classical

music. Where these needs are reflected merely in narcissistic and voyeuristic behavior, musical preferences are almost invariably characterized by uncomplex structural form, richness of tone color, a strongly rhythmical pulse, and at least staccato background, if not melody.

6. Individuals with low-strength libidinal drives seem to prefer sedative music which is legato, lacking in a pronounced rhythmical pulse, rather low and unvarying in loudness level, and in simple, easily-grasped forms. This is particularly true when weak libidinal drives are combined with repression and sublimation of aggressive and sexual urges. Cultural background and the presence or absence of genuine aesthetic values may influence the choice of the aesthetic type of music, but the content largely remains sedative.

7. Preference for a particular aesthetic type of music is most dependent upon cultural background, strength of aesthetic values, musical training, and valence for music in general as a medium for satisfaction of the needs of the individual.

8. The quality of aesthetic preferences in areas other than music are of very similar quality in the area of music. For example, preferences for realism, strong color, and obvious form in the graphic arts are also determinants for choices in music.

9. Of all the features of music which seem to determine its stimulative or sedative qualities, the staccato-legato feature appears to be of first importance. Since it is a feature common to all music regardless of aesthetic type, and since the subjects were especially well grouped according to basic personality structure when their musical preferences were judged by this criterion, it is probable that a more thorough investigation wherein staccato-legato is the prime variable would yield interesting and significant results.

CHAPTER VIII

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Many of the affects of music on human behavior have been identified and documented. Because this is a comparatively new field of investigation and also because of the extremely complex nature of the affects of music, only a beginning has been made toward what is hoped will become a valid and useful knowledge and art.

A very broad and basic area of investigation is concerned with the identification and validation of the relationships which may exist between personality types, or psychological variables within a given personality, and the nature of that music to which the individual is especially responsive. The discovery and understanding of such relationships should prove to be helpful in shaping the practices, procedures, and interpersonal relationships in the private studio, educational institutions, and rehabilitation institutions of various kinds, to mention a few.

The Problem

This study was concerned primarily with the development of techniques which would permit thorough investigation

into the musical preferences of the individual. Involved were the construction and administration of appropriate tests and measures of musical preferences, and the coding and tabulation of the resultant mass of data in practical and pertinent form.

Secondarily, this study was concerned with the comparison of the individual's musical preferences with his personality structure, as revealed by extensive psychological testing, in an effort to discover areas which seem to give promise of significant results in the event of further investigation.

Review of Pertinent Literature

Before evolving a technique for investigating the relationships between personality and musical preferences, the literature was searched for (1) information which would seem to indicate that such relationship did exist, and that an investigation in this area was warrantable, and (2) the techniques and criticisms of techniques employed by other investigators in an effort to establish a sound basis upon which to evolve the techniques pertinent to this study.

It was discovered that there were virtually no studies extant which bore directly upon the first part of the problem. However, many of those studies which were related to this one indicated that the nature of the

individual's responses to music was definitive and stable enough to warrant an investigation of them in relationship to his personality structure.

It became apparent when searching the literature for appropriate testing techniques that more than a single test of musical preference would be needed if valid data were to be obtained. Furthermore, the various tests and measures to be employed should prove to be more effective if their immediate purposes varied enough that the problem of eliciting musical preference data could be attacked from several angles; and, since their ultimate purpose was identical, mutual validation of the data could be effected.

From a perusal of the techniques most commonly employed by psychologists in their research into the complex problems of human behavior, it became manifest that the best results were most often obtained when such problems were approached from at least several different angles. The use of a number of different but complementary analytical techniques has been especially effective in delineating personality structure. Since it was assumed that musical preferences are in some way related to the individual's personality, similar techniques were developed for the purpose of determining his musical preferences.

The Subjects

The twelve subjects used in this study were selected

from a large group of students who had sought counsel from a university guidance bureau. They were randomly selected from this group except for the following restrictions: there was an approximately equal number of men and women, and each sex was evenly divided between extroverts or outgoing personalities and introverts or withdrawn personalities.

A larger group of subjects was not used because of (1) the necessity of intensive study of each individual, and (2) the study was concerned primarily with the development and testing of certain techniques of investigation of musical preferences.

The Psychological Tests

The psychological tests were selected, administered, scored, and interpreted by three qualified psychologists. The tests used were The Rorschach Personality Test, the Thematic Apperception Test, the Wechsler-Bellevue Intelligence Scale, the Riggs Literal-Indirect-Exciting (LIE) Test, and adaptations of the Murray-Harvard Aesthetic Preference and Humor Preference Tests. In addition each subject was interviewed by the psychologists.

The psychological data was prepared in the form of a descriptive summary, which was in turn briefed for its inclusion in the thesis. The raw scores of the psychological tests appear in Appendix A.

The Musical Preference Tests and Measures

All of the following tests except the Keston Test of Musical Preference were specially prepared for this study because no others were available which could serve the purposes outlined in the preceding paragraphs.

Keston Musical Preference Test. The Keston test consists of one hundred and twenty short, recorded musical excerpts, thirty in each of four aesthetic categories: severely classical, popular classical, semi-classical, and popular. One test item contains one excerpt from each of these four categories. The excerpts are randomly presented to the subject and are ranked by him in the order of his preference. If he consistently ranks the severely classical excerpt first, the popular classical second, the semi-classical third, and the popular fourth, he will make the "best" possible score. Lower scores are dependent upon the extent of the deviation from this sequence.

Daily Log. Each subject was asked to keep a daily record of the music to which he listened and then to record his reaction to the music on a specially prepared form by checking an affective scale ranging from a reaction of extreme displeasure to one of extreme pleasure. He had, theoretically, an infinite number of musical compositions from which to choose, and those he reported on the form

were considered to be a valid sample of his genuine musical preferences.

Forty-Eight Excerpts Test. A specially prepared set of musical excerpts was recorded and presented to each subject for his reaction, which he recorded on the form described in the paragraph above. The excerpts were chosen to constitute an adequate sampling of all types of music which were readily available in live concerts, radio programs, and recordings.

Five Preferred Recordings. Each subject was asked to list his five most preferred pieces of recorded music. As in the Daily Log preferences, these recordings were considered to be a highly valid indication of his genuine preferences.

Questionnaire on Musical Background. In order to help assess the effect of previous musical training, and personal and family attitudes toward music, each subject filled out a questionnaire. He was also asked to list all recordings in his record library.

Extraction and Tabulation of Musical Preference Data

The means and methods of the analyses of recordings, and the coding and handling of musical data represent what is believed to be a unique technique in this field of research.

Although the technique proved to be effective in this study, like any new research tool it should be reexamined and refined so that its usefulness will be more assured.

Analyses of the Recordings. All of the recordings of the tests and other recordings listened to by the subjects, except those which were not available, were analyzed on the bases of the following criteria: tempo, tone color, staccato-legato, dynamics, pitch range, sonance, sedation-stimulation, rhythm, harmonic structure, formal structure, aesthetic type, and media of performance. Such judgments were recorded on a form called a "master sheet."

Judgments of tempo, tone color, staccato-legato, loudness level, pitch range, sonance, and mode were graphed by means of a continuous trace on a form calibrated in intervals of time. This portion of the master sheet was so designed that it could be used with the Miessner "Phonoscope," an audio-visual device which greatly facilitated the analyses of the recordings.

Coding of Data on IBM Cards. All of the data appearing on the master sheet were coded and punched on IBM cards for purposes of quick sorting and easy tabulation. Each subject's reaction as he noted it on the affective-scale form was recorded in the same way.

Tabulation and Scoring of the Data. Sortings and tabulations were made separately for each of the four musical tests and measures. Tabulations were made regarding the frequency of the presence or absence of the judgments made for each criterion, how they were categorized, and the ratings given by each subject.

Such tabulations were recorded on another specially prepared form. Thus a complete record was available of each subject's reactions to every recording involved in the musical testing program, together with a detailed analysis of what was contained in the music.

A measure of central tendency was computed for all those criteria which exist as continua, (tempo, staccato-legato, loudness level, pitch range, sonance, sedation-stimulation, and prominence of the rhythmical pulse). This was done for each subject and for each of the four musical tests and measures. An average response was computed for all other criteria, i.e., those which do not exist as continua but must be judged in discrete categories.

Presentation of Results

The psychological data for each subject appeared in the form of a descriptive summary, and was organized under the following headings: overt life-plan, values, temperamental endowment, covert structure, conflicts, and assessment.

The musical preference data was presented by means of a table showing the musical preference scores of each subject and was followed by descriptive summaries of his musical background, attitudes toward music, and the scores he made on the musical preference tests and measures.

Criticism of the Techniques Employed

Keston Musical Preference Test. The purpose of the Keston test is to determine the "aesthetic quotient" of an individual. He is asked to rank-order four different aesthetic types of musical excerpts in terms of his preferences. This purpose it accomplishes quite well, except possibly, that some experts in serious music would question whether a particularly fine example of jazz should not be ranked above many semi-classical compositions on an aesthetic scale.

The Keston test was particularly useful as a means of validating aesthetic values as they appeared in the personality structure. It was of less value in providing musical data other than data concerning preferences for aesthetic type. The two most important reasons why it could not serve well in this capacity are, (1) it contains excerpts which are limited to orchestral ensembles, no vocal compositions being included, and (2) the subject is forced to rank-order the four excerpts in each test item

regardless of how much he may like or dislike them as a whole. Thus the scores cannot be interpreted in the same way as the scores for the other musical preference tests.

Daily Log. The daily record each subject kept of the music to which he listened proved to be one of the most important sources of data. The Daily Log provided a valid indication of the quantity of music to which each subject listened, and also made it possible to analyze the music qualitatively. The effectiveness of the Daily Log could be improved, however, if it were possible to record the music the subject heard in live concerts and live radio broadcasts so that it could be analyzed, as were the phonograph recordings to which he listened. Another improvement would consist of a longer testing program for those few subjects who listen to music so infrequently that it becomes difficult to amass sufficient data from which valid conclusions may be drawn.

Forty-Eight Excerpts Test. The purpose of the Forty-Eight Excerpts Test is believed to be sound. The data it provided was of much value in analyzing the subject's musical preferences. However, it is realized now that the test needs to contain a more comprehensive and valid sampling of musical literature before its potentialities can be more fully realized.

The test could be greatly improved if it were to consist of a primary test which would categorize the subjects according to their preferences for the aesthetic types of music, followed by one or several sub-tests each of which would contain items widely representative of the particular aesthetic musical type or types preferred by the subject. This would be a major task of test construction. Nevertheless, the task should be undertaken in view of the possibilities of eliciting valuable information which the Forty-Eight Excerpts Test has already revealed.

Five Preferred Recordings. The five most preferred recordings which each subject listed were of relatively minor importance in assessing his musical preferences. There is little doubt that they were a valid indication of his true preferences, but the scores they provided were too few in number to warrant more than superficial statistical treatment. The information provided by the Five Preferred Recordings was interesting and pertinent, however, and the data they yielded, although not profound, made some contribution toward the assessment of the subject's musical preferences.

Questionnaire on Musical Background. The primary value of the questionnaire was that it provided information which supplemented the biographical data which appeared in

the psychological descriptions. The value of the questionnaire could be greatly increased if it were expanded, and perhaps took the form of an interview wherein much more detailed information could be obtained concerning the subject's attitudes toward music. The subjects in this study verbalized very little regarding their musical likes and dislikes. It would be advantageous in the future to emphasize the introspective technique somewhat more as a valuable means of supplementing the data provided by the musical preference tests.

Criteria of the Musical Judgments. Data concerning the following criteria were found to be of value: tempo, particularly variability of tempo; tone color; staccato-legato, especially of the prime melody and background, but not the total effect; dynamics; sedation-stimulation, overall effect only; harmonic structure, but excluding mode, consistency of style, and frequency of modulation; formal structure, especially amount of repetition, but excluding the categorizations of abstract and programmatic music; rhythm; and type.

Data concerning the following criteria were found to be of little or no value: sonance and pitch range.

Manner of Interpreting the Results

Each subject's personality was discussed in relation

to his musical preferences. Congruencies and discrepancies were noted. The approach was primarily that of establishing what appeared to be logical relationships between certain personality variables and noteworthy features of the musical preferences. These analyses, together with the criticisms of the techniques employed in this study, formed the bases for the conclusions.

Conclusions

It is, of course, not warrantable to attribute universality to the conclusions which follow. The reasons for this are probably obvious. In the first place, statistical certainty of such conclusions was not possible because of the small number of subjects, and in the second place, at the time the study was made there were no standardized tests of musical preference available. It should also be remembered that the primary purpose of this study was to evolve techniques, where techniques did not then exist, for identifying relationships between musical preferences and personality, and to test the efficacy of the proposed techniques through intensive study of a limited number of subjects.

1. Aesthetic type of music appears to be the prime determinant of the nature of musical preferences of the majority of people.

2. Of almost equal importance to aesthetic type of music, and in some cases of even greater importance, are the effects of certain dynamic musical elements on musical preferences. These are: rhythm, staccato-legato, tone color, and to a lesser extent, loudness level and tempo.

3. Variability of tempo and loudness level most often is preferred to steadiness of tempo and loudness level. This becomes more apparent as the rhythmical pulse becomes more subtle and complex and as it recedes into the background.

4. Data concerning sedation-stimulation serve well as validations of the subject's musical preferences, particularly with regard to his preferences for rhythm, staccato-legato, loudness level, and tempo.

5. Data concerning harmonic structure will be strongly affected by the preferred aesthetic type of music. On the other hand, the analysis of chord structure sometimes reveals preferences for a particular harmonic style which affects musical preferences as a whole, regardless of the presence or absence of a preferred aesthetic type.

6. Data concerning mode, consistency of compositional style, and frequency of modulation did not appear to be significant to the results of this study.

7. Data concerning the amount of repetition, the particular musical form involved, and the regularity of

phrase structure are important in delineating the individual's musical preferences.

8. Whether music is abstract or programmatic and homophonic or polyphonic appeared to be of little importance in this study, largely because practically no polyphonic and relatively few abstract compositions were chosen by the subjects.

9. There are so few compositions readily available to the typical listener which are other than "wide" in pitch range, and "consonant" in sonance, that these two criteria do not appear to be of much importance in studies such as this.

10. Musical preferences are unique to the individual and an analysis of them must be made on an individual basis.

11. Deviations from an expected pattern of musical preference for a given individual can probably be accounted for in most instances because of the unique and personal associations the music arouses.

12. The reasons for preferences of certain vocal qualities appear to be hidden deeply and are therefore difficult to ascertain.

13. Well constructed, standardized tests of musical preference are probably essential before more specific relationships can be established between personality and musical preferences.

14. Preferences for classical music are more dependent upon a response to the beauty and aesthetic value of the music for themselves than they are dependent upon extraneous cultural factors.

15. Individuals who aspire to become part of a higher cultural level tend to choose classical music as a means of securing acceptance.

✓ 16. Music serves as an escape more often for the withdrawn personality than for the outgoing personality.

17. Musical preferences are more stable, consistent, and easily defined in the well-integrated personality than in the unintegrated personality.

18. There appears to be a positive relationship between sensual appetite and music which is noteworthy for its color and stimulative qualities.

19. Sedative music is often preferred by individuals who have weak libidinal drives. Such music usually is repetitive, simple, and conventional in form.

20. Qualitatively, musical preferences tend to be validated by preferences in other aesthetic areas.

✓ 21. Musical preferences are almost invariably directly related to the personality.

✓ 22. The individual chooses music according to his needs.

Implications

The foregoing conclusions give rise to some implications which should be of value in many situations where music is the medium of contact between individuals. These implications may serve to expand or reinforce the basic philosophy of those persons who are attempting to teach, entertain, elevate, or heal through the art of music. In some instances implications are of a quite specific and practical nature.

Anyone who is attempting to teach music should take into account the unique character of the individual's musical preferences. It is true that in many respects the individual's musical preferences are identified with the societal group within which he moves; to this extent the teacher can consider the group rather than the individual as he guides him in his musical experiences. However, the teacher can only produce the most profound results when he knows and takes into account the unique musical preferences of the individual. This will have a direct bearing on his choice of musical materials as well as the manner in which they are presented.

✓ Since the individual chooses music according to his needs, it is especially important that the teacher and the hospital musician be aware of them. Such professional persons properly must spend much of their time working with

individuals through the medium of music. It is in this close, personal relationship that the musician can do his most effective work.

The entertainer and concert artist nearly always must seek to produce an affective group response, yet within the group allowing the individual to respond in his unique and personal way. This is also true for the teacher when he is working with groups rather than the individual.

There is evidence that musical training alone, even if rather extensive, will not necessarily produce a genuine liking for the finest in musical literature. Some music educators apparently have been derelict in their duty to reveal to the student, wherever possible, the beauties of great music. Their emphasis has been on technical training and mere entertainment rather than an expanding, discriminative series of worthwhile musical experiences. The music educator must, of course, be realistically aware of the variation in capacity from one individual to another for genuine aesthetic musical feeling.

From the standpoint of mental hygiene, this study has underscored again the role which music can play in helping the individual function more effectively and acceptably in his environment. If the musician possesses some degree of psychological understanding of those individuals with whom he works, this should be of help to him as he

attempts to employ music in ways which will more effectively bring about desirable changes within such individuals.

✓ In closing, it is hoped that some contribution has been made toward an understanding of the role which music plays in the life of the individual. It should be emphasized again that the individual's musical preferences are directly related to his personality. Both personality and musical preferences are unique for every individual, although they do contain elements which are identifiable in other, similar personalities. An understanding of the individual's personality as well as his musical preferences is essential if he is to be most profoundly affected through the art of music.

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APPENDIX A

Scores of the Psychological Tests

TABLE XIV
RORSCHACH PERSONALITY TEST SCORES

Subject	TR	A%	P	A:Ad H:Id	M: C	FM:Fc	%8, 9,10	W:M	W%	D%	d%	dd	di	dr
Beta	16	37	4	7: 3	4: 1½	1: 3	50	10: 4	62	31	6	0	0	0
Lambda	23	57	4	14: 2	5: 3	5: 7	43	11: 5	48	35	0	0	0	13
Mu	23	35	7	12: 7	6: 2	3: 3	35	7: 6	30	26	0	0	0	35
Pi	19	47	5	11: 0	2: 1½	3: 3	26	13: 2	69	0	0	0	0	32
Rho	19	42	4	14: 1	5: 0	3: 3	32	9: 5	47	32	0	0	0	21
Sigma	19	53	4	7: 3	1: 1½	1: 4	32	7: 1	37	52	5	0	0	0
Tau	17	41	3	7: 4	4: ½	2: 3	35	7: 4	41	29	12	0	0	18
Upsilon	27	48	6	7: 7	3: 4	5: 4	33	12: 3	45	41	0	0	0	21
Phi	67	46	6	32:16	5: 3	5: 7	46	7: 5	10	54	10	3	3	15
Chi	17	41	6	6: 3	1: 1	4: 6	41	10: 1	59	41	0	0	0	0
Psi	33	33	3	9: 9	3: 2½	4: 7	52	10: 3	20	21	3	0	6	24
Omega	45	35	6	22: 3	4:10	7: 8	40	11: 4	24	53	2	0	2	18

TABLE XIV (Continued)
 RORSCHACH PERSONALITY TEST SCORES

Subject	J	Co	()	M C	% M	% FM	% m	% k	% K	% FK	% F	% Fc	% cF	% C'	% FC	% CF	% C
Beta	0	25	31	12	25	6	0	0	0	0	37	12	0	6	6	6	0
Lambda	4	26	22	9	22	13	9	0	0	0	9	30	0	0	9	9	0
Mu	9	30	22	0	26	13	0	0	4	0	26	4	0	9	17	0	0
Pi	0	26	0	26	10	10	5	0	0	0	47	10	0	5	5	5	0
Rho	0	21	16	0	26	10	5	0	0	0	42	5	0	10	0	0	0
Sigma	5	5	0	5	5	5	0	0	5	0	53	10	10	0	5	5	0
Tau	0	18	6	18	24	6	6	0	0	0	41	12	6	0	6	0	0
Upsilon	0	15	7	4	11	11	4	4	0	0	37	4	4	7	7	11	0
Phi	5	9	21	0	7	4	3	0	0	0	66	61	0	6	9	0	0
Chi	0	6	6	0	6	18	6	0	0	0	23	23	0	12	0	12	0
Psi	15	6	9	0	9	12	0	0	0	0	46	12	3	6	9	3	0
Omega	0	9	13	7	9	13	2	0	2	2	25	13	4	0	13	15	0

Lambda	129	126	126	15	18	6	17	13	14	14	14	15	13	136	V
Iau	121	121	116	11	15	11	9	13	7	12	18	16	13	123	V
P1	122	118	119	13	16	7	13	13	11	14	12	14	13	125	F
Rho	126	119	125	15	11	16	10	14	13	9	14	13	16	122	F
Sigma	111	106	113	10	16	10	9	13	11	10	11	12	11	119	F
Tau	131	133	122	12	13	11	16	12	15	14	14	16	16	113	F
Upsilon	130	133	121	13	12	16	13	11	17	14	15	15	14	123	F
Phi	139	132	135	15	16	14	15	14	13	13	18	17	13	122	V
Chi	121	121	116	12	13	11	9	14	13	13	13	12	15	113	F
Psi	119	109	122	15	11	14	10	14	14	10	12	12	10	128	F
Omega	127	118	130	11	16	14	15	16	11	15	16	12	10	125	F

TABLE XV

WECHSLER-BELLWUE INTELLIGENCE SCALE SCORES

Subject	
Full I. Q.	
Performance	
Verbal	
Info.	
Comp.	
Dig. Sp.	
Arith.	
Simil.	
P. Arr.	
P. Comp.	
Blk. Des.	
Obj. Ass.	
Dig. Sym.	
SB Voc.	
Vase-Face	

Beta 136 126 137 16 13 17 13 14 16 11 16 11 16 140 F

TABLE XVI
AESTHETIC PREFERENCE TEST SCORES

Subject	High color	Realistic style	Realistic content	Story implied	People portrayed	Male portrayed	Female portrayed	Couple portrayed	Nude portrayed	Child portrayed	Vague grp. or no people	Exciting content	Passive	Intellectual	Oral	Aggressive	Outdoors	Indoors	Oil painting	Woodcut or wash	Statue
Beta	151	25	49	26	33	65	35	33	54	20	78	104	41	32	56	41	120	56	62	72	7
Lambda	112	21	50	52	45	85	12	32	50	17	85	120	46	17	45	66	136	42	35	81	15
Mu	199	39	78	22	62	71	27	24	59	41	68	120	76	15	50	57	117	64	69	53	9
Pi	180	50	43	39	26	52	44	32	77	19	84	117	66	37	51	66	93	68	62	26	33
Rho	152	47	57	43	46	69	19	32	62	36	75	103	70	18	46	63	128	41	55	43	33
Sigma	156	46	41	68	37	49	25	46	54	18	94	131	56	23	52	78	121	63	65	46	20

TABLE XVI (Concluded)

Subject	Tau	Upsilon	Phi	Chi	Psi	Omega
High color	129	170	149	128	119	56
Realistic style	29	50	40	57	56	47
Realistic content	50	57	61	53	49	44
Story implied	48	32	35	28	57	55
People portrayed	45	29	55	63	67	80
Male portrayed	68	70	83	104	76	107
Female portrayed	31	19	7	30	20	35
Couple portrayed	39	21	34	14	46	46
Nude portrayed	53	47	52	82	81	104
Child portrayed	19	31	33	16	26	5
Vague grp. or no people	74	90	74	67	63	5
Exciting content	112	82	102	124	128	140
Passive	51	63	63	86	76	62
Intellectual	32	29	9	26	21	23
Oral	60	44	61	32	47	39
Aggressive	37	52	58	84	67	74
Outdoors	131	122	131	103	119	99
Indoors	53	43	42	55	46	43
Oil painting	52	61	49	42	51	8
Woodcut or wash	71	45	50	48	50	68
Statue	9	25	22	41	38	55

TABLE XVII
HUMOR PREFERENCE TEST SCORES

Subject	Emotion	Slapstick	Irony	Irreality	Conventions	Total liked
Beta	6	11	7	9	7	17
Lambda	7	11	7	5	7	17
Mu	9	6	7	2	8	15
Pi	10	13	8	3	11	21
Rho	4	7	4	3	6	12
Sigma	8	9	6	4	8	19
Tau	6	9	6	1	9	16
Upsilon	9	13	9	1	10	17
Phi	8	10	7	3	8	16
Chi	5	10	7	3	5	15
Psi	6	12	7	4	8	19
Omega	7	6	6	2	6	12

TABLE XVIII
SENTENCE (LITERAL-INDIRECT-EXCITING) TEST

Subject	Rating	Score:	L%	I%	E%	Total Score	I%
Beta	Exciting-Indirect		41	29	30	67	48
Lambda	Indirect		49	28	23	53	15
Mu	Exciting & Literal		51	24	25	73	52
Pi	Exciting & Literal		54	17	29	32	47
Rho	Literal-Indirect		59	22	19	59	32
Sigma	Exciting-Indirect		48	25	27	46	26
Tau	Exciting-Indirect		38	28	34	18	39
Upsilon	Literal-Exciting		58	18	24	29	41
Phi	Median in all three		50	25	25	64	52
Chi	Literal-Exciting		54	18	28	28	68
Psi	Literal-Exciting		57	17	26	27	41
Omega	Exciting		46	21	33	36	30

APPENDIX B

The Keston Test of Musical Preference

MUSICAL SELECTIONS INCLUDED IN THE TEST

Item No.

- | | | |
|---|---|----------------|
| 1 | A. Egmont Overture | Beethoven |
| | B. Finlandia | Sibelius |
| | C. Light Cavalry Overture | von Suppe |
| | D. Don't Be That Way | |
| 2 | A. Fingal's Cave | Mendelssohn |
| | B. Merry Wives of Windsor | Nicolai |
| | C. With a Song in My Heart | Kostelanetz |
| | D. Stompin' at the Savoy | |
| 3 | A. Scherzo from Midsummer
Night's Dream | Mendelssohn |
| | B. Spanish Rhapsody | Chabrier |
| | C. Adios Muchachos | Morton Gould |
| | D. Song of India | Tommy Dorsey |
| 4 | A. Romeo and Juliet Overture | Tschaikowsky |
| | B. Ase's Death from Peer
Gynt Suite | Grieg |
| | C. At Dawning | Cadman |
| | D. Mood Indigo | Duke Ellington |
| 5 | A. Eine Kleine Nachtmusick
(last movement) | Mozart |
| | B. Dance of the Hours from
La Gioconda | Ponchielli |
| | C. Serenade | Drigo |
| | D. You're the Cream in My
Coffee | |
| 6 | A. Symphony No. 4
(1st movement) | Brahms |
| | B. Russian Sailor's Dance
from the Red Poppy | Gliere |
| | C. Dance of the Chinese Doll | Rebikoff |
| | D. One-zy Two-zy | Kay Kyser |
| 7 | A. Symphony No. 5 in E minor
(1st movement) | Dvorak |
| | B. Orpheus in Hades | Offenbach |
| | C. Poet and Peasant Overture | von Suppe |
| | D. Oh Lady be Good | |

Item No.

- | | | |
|----|---|-----------------|
| 8 | A. Symphony No. 39 in E flat
(last movement) | Mozart |
| | B. La Rouet Omphale | Saint-Saens |
| | C. Pirouette | Finck |
| | D. Stumbling | |
| 9 | A. Prelude to Act III of
Lohengrin | Wagner |
| | B. Pomp and Circumstance | Elgar |
| | C. Parade of the Wooden
Soldiers | Jessel |
| | D. Back o' Town Blues | Louis Armstrong |
| 10 | A. Symphony No. 101 in D
(last movement) | Haydn |
| | B. Overture to La Scala di
Seta | Rossini |
| | C. Le Secret | Gautier |
| | D. Traffic Jam | Artie Shaw |
| 11 | A. Symphony No. 34 in C
(last movement) | Mozart |
| | B. Petite Suite | Debussy |
| | C. Gaité Parisienne | Offenbach |
| | D. The One That Got Away | |
| 12 | A. Suite for Strings
(Prelude) | Foote |
| | B. Passo a 3ie (Dance) | Rossini |
| | C. In a Monastery Garden | Ketelby |
| | D. Dusk | Duke Ellington |
| 13 | A. Afternoon of a Faun | Debussy |
| | B. Morning from Peer Gynt
Suite | Grieg |
| | C. Cielito Linda | Morton Gould |
| | D. Maria Elena | Tommy Dorsey |
| 14 | A. Symphony No. 7 in A
(last movement) | Beethoven |
| | B. Dances from Galento | Kodaly |
| | C. In a Persian Market Place | Ketelby |
| | D. Artistry Jumps | Stan Kenton |
| 15 | A. Overture to the Marriage
of Figaro | Mozart |
| | B. Symphony in C
(1st movement) | Bizet |
| | C. Look for the Silver Lining | Kern |
| | D. Tuxedo Junction | Glenn Miller |

Item No.

- | | | |
|----|--|-----------------|
| 16 | A. Francesca Da Rimini | Tschaikowsky |
| | B. William Tell Overture | Rossini |
| | C. Indian War Dance | Skilton |
| | D. Stompy Jones | Duke Ellington |
| 17 | A. Concerto Grosso in D | Handel |
| | B. Rondo from Suite in F
sharp minor | Dohnanyi |
| | C. Sans Souci Polka | J. Strauss |
| | D. Green Eyes | Jimmy Dorsey |
| 18 | A. Symphony in D minor
(last movement) | Franck |
| | B. Bronze Horse Overture | Auber |
| | C. In a Clock Store | Orth |
| | D. Brazen Little Raisin | Phil Harris |
| 19 | A. Symphony No. 7 in A
(2nd movement) | Beethoven |
| | B. The Last Spring | Grieg |
| | C. Habanera from Natoma | Herbert |
| | D. Dancing in the Dark | Artie Shaw |
| 20 | A. Classical Symphony in D
(last movement) | Prokofieff |
| | B. Mignon Overture | Thomas |
| | C. Mexican Hat Dance | Morton Gould |
| | D. Esquire Jump | Leonard Feather |
| 21 | A. Symphony No. 35 in D
(last movement) | Mozart |
| | B. Overture to Donna Diana | Reznicek |
| | C. Electrofor Polka | J. Strauss |
| | D. Suite No. 8 | Artie Shaw |
| 22 | A. Don Juan | R. Strauss |
| | B. La Forza del Destino
Overture | Verdi |
| | C. Dream Tango | Malderon |
| | D. Sneaking Out | Erskine Hawkins |
| 23 | A. Concerto for Violoncello
and Orchestra
(1st movement) | Dvorak |
| | B. Zampa Overture | Herold |
| | C. Neapolitan Nights | Zamecnik |
| | D. Linger in My Dreams a
Little Longer, Baby | Louis Armstrong |

Item No.

- | | | |
|----|---|-------------------|
| 24 | A. Symphony No. 3 in F
(1st movement) | Brahms |
| | B. Semiramide Overture | Rossini |
| | C. Badinage | Herbert |
| | D. A Blue Serge Suit with a
Belt in the Back | |
| 25 | A. Symphony No. 88 in G
(last movement) | Haydn |
| | B. Intermezzo from Jewels of
the Madonna | Wolf-Ferrari |
| | C. Al Fresco | Herbert |
| | D. The Steam is on the Beam | Johnny Green |
| 26 | A. Variations on a Theme by
Haydn | Brahms |
| | B. Valse from Coppelia | Delibes |
| | C. La Rosita | Vladimir Selinsky |
| | D. It Couldn't be True | Glenn Miller |
| 27 | A. Concerto for Violin and
Orchestra
(1st movement) | Beethoven |
| | B. Carmen Excerpt | Bizet |
| | C. Poeme | Fibich |
| | D. Drink Hearty | "Red" Allen |
| 28 | A. Air for the G string | Bach |
| | B. Romance | Tschaikowsky |
| | C. Speak to Me of Love | Lenoir |
| | D. Chlo-e | Duke Ellington |
| 29 | A. Toccata in D minor | Bach |
| | B. Russlan and Ludmilla
Overture | Glinka |
| | C. Chanson | Friml |
| | D. King Porter | Benny Goodman |
| 30 | A. Double Concerto in A
minor (1st movement) | Brahms |
| | B. War March of the Priests
from Athalie | Mendelssohn |
| | C. Jeux d'enfants | Bizet |
| | D. That Wonderful Worrisome
Feeling | Erskine Hawkins |

MUSIC PREFERENCE TEST

There are ten items in this test. Each item consists of four musical excerpts, A, B, C, and D played consecutively with a pause between each. You are to rank these four excerpts in the order in which you liked them best. In each group you may choose only one excerpt as best, one excerpt as second best, and so forth. Therefore, you must place only one letter in each space. This must be done in every case even though you may occasionally doubt your choices. When the test has been completed, there must be one letter in each preference space on the sheet.

Because it is difficult to keep the excerpts in mind, a work column has been provided. If you refer to the sample below, you will understand how the work column is to be used.

	like best	<u>D</u>			1. <u>D</u>
			fairly sure	<u>✓</u>	2. <u> </u>
<u>EXAMPLE</u>	like second best	<u>B</u>			3. <u>E</u>
<u>ITEM</u>			not sure at all	<u> </u>	4. <u> </u>
	like third best	<u>A</u> ✓			5. <u>A</u> ✓
					6. <u> </u>
	like least	<u>C</u> ✓			7. <u>C</u> ✓
					8. <u> </u>
					9. <u> </u>

When excerpt A is played, place the letter A in space 5 in the work column. It is placed here because the other letters will range above or below 5 depending upon your preferences. When excerpt B is played, let us suppose you liked it better than excerpt A. You would then place the letter B in space 3 in the work column because you must allow some space between for the letters C and D if you should happen to need it. Now let us suppose that upon hearing excerpt C you liked excerpt C less than A or B. You would then place the letter C in space 7, again allowing space between for the letter D if you should happen to like D better than C but not as much as A. However, let us suppose that you liked D best of all. You would then place

the letter D above A, B, and C in space 1 or 2. When you have the letters in the order which suits your preferences, simply copy them carefully in that order in the column to the left, i.e., like best, like second best, etc.

Undoubtedly, some excerpts will be familiar to you and others will not. If an excerpt is familiar to you, place a check ✓ after that letter and be sure to keep that check with the letter when you copy the list. Thus, in the example above, A and C are familiar excerpts, but B and D are not. Note that the checks occur in BOTH the work column and the final preference column.

Very likely you will be more certain of your preferences for certain of the items than for others. To show how sure you feel about your choices, place a check mark in the space provided. In the example above, let us suppose we were fairly sure that we preferred the excerpts in the order indicated. You will probably find that it becomes easier to rank the excerpts as you get more practice.

This test requires a sincere effort on your part. Concentrate as hard as you can because the test is difficult. Keep in mind that there are no right or wrong answers; it is simply a question of how YOU feel about the music. Therefore, above all, be honest with yourself. Otherwise the test is a waste of time for all concerned.

	like best	—		1. —
			fairly sure	2. —
	like second best	—		3. —
			not sure at all	4. —
<u>PRACTICE</u>	like third best	—		5. —
<u>ITEM</u>				6. —
	like least	—		7. —
				8. —
				9. —

MUSIC PREFERENCE TEST

Answer Sheet

Name	Date
------	------

School _____ Age _____ Grade _____

<u>ITEM NO. 1</u>	like best	_____	
	like second best	_____	fairly sure _____
	like third best	_____	not sure at all _____
	like least	_____	_____

<u>ITEM NO. 2</u>	like best	_____	
	like second best	_____	fairly sure _____
	like third best	_____	not sure at all _____
	like least	_____	_____

<u>ITEM NO. 3</u>	like best	_____	_____
	like second best	_____	fairly sure _____
	like third best	_____	not sure at all _____
	like least	_____	_____

(Note: The remainder of the answer sheets follow the form given on this page and it is not considered necessary to duplicate them further).

APPENDIX C

The Forty-Eight Excerpts Test

MUSICAL SELECTIONS INCLUDED IN THE TEST

<u>No.</u>	<u>Title</u>	<u>Composer - Arranger</u>	<u>Performer(s)</u>	<u>Recorder</u>
1	Tellin' My Troubles to My Old Guitar		Jimmy Wakeley (String band)	Capitol 54-40187
2	Symphony No. 4, Op. 36 (4th movement)	Tschaikowsky	Symphony orchestra	Victor 16742-B
3	Double Talk		John Kirby (Dance band)	Columbia 35998
4	Fêtes	Debussy	Symphony orchestra	Victor 2034-A
5	La Campanella	Liszt	Piano solo	Victor 11-9025-A
6	Battle of Jericho		Yale Glee Club	Columbia 36464
7	Quartet No. 4, Op. 18, No. 4 (1st movement)	Beethoven	String quartet	Victor 4511-A
8	Willow Weep for Me		Stan Kenton (June Christy, vocal)	Capitol 20087
9	Nuages	Debussy	Symphony orchestra	Victor 15814-A
10	Chorale for Brass, Piano and Bongo		Stan Kenton (Dance band)	Capitol 10183
11	Quintet, Op. 163 (2nd movement)	Schubert	String quintet	Victor 16932-B
12	Elegie	Massenet	Art Tatum (Piano solo)	Decca 25199-A
13	Cantata No. 78 (Part II: We Hasten . . .)	Bach	Women's chorus with orchestra	Victor 11-9126-A

<u>No.</u>	<u>Title</u>	<u>Composer - Arranger</u>	<u>Performer(s)</u>	<u>Recorder</u>
14	Roumanian Rhapsody, Op. 11, No. 1	Enesco	Symphony orchestra	Victor 12-0069-B
15	La Cumparsita		Xavier Cugat (Dance band)	Victor 276003-A
16	Reverie	Debussy	Piano solo	Victor 12-0066-B
17	Parade March No. 1		Goldman Band	Columbia 36530
18	I'll See You in My Dreams		Bing Crosby with dance band	Decca 24721-B
19	Minuet	Haydn	Segovia (Guitar)	Decca 24148-A
20	The Fire-bird Suite (Dance of King Kastchei)	Stravinsky	Symphony orchestra	Victor 16699-A
21	Fools Rush In		Jo Stafford with dance band	Capitol 808
22	Sonata, Op. 27, (3rd movement)	Beethoven	Piano solo	Victor 11-9518-B
23	All the Things You Are		Kostalanetz (Dance orch.)	Columbia 4268-M
24	Divertimento in E flat major, (K. 563)	Mozart	String trio	Victor 11-8550-B
25	Cocktails for Two		Art Tatum (Piano solo)	Decca 25202-A
26	American Folk Rhapsody	Clare Grundman	Concert band	Boosey & Hawkes 21444

<u>No.</u>	<u>Title</u>	<u>Composer - Arranger</u>	<u>Performer(s)</u>	<u>Recorder</u>
27	"M'Appari" from Martha	Flotow	Bjoerling with orch.	Victor 13790-A
28	A Media Luz		Marek Weber (Dance band)	Columbia 36571
29	Some Enchanted Evening		Perry Como with dance band	Victor 20-3402-A
30	Sonata No. 7, Op. 83	Prokofieff	Piano solo	Victor 11-9102-A
31	Triple Fugue in E flat major	Bach	Organ	Victor 11-8528-A
32	Careless Love		Yale Glee Club	Columbia 36463
33	Dark Eyes		Charlie Ventura (Dance band)	Victor 20-3770-A
34	Symphony No. 6 (4th movement)	Tschaikowsky	Symphony orchestra	Victor 7302-B
35	Serenade in C, Op. 10 (Part II: Romanza)	Dohnanyi	String trio	Victor 11-8180-A
36	"Les Dragons d'Alcala" from Carmen	Bizet	Symphony orchestra	Victor 6873-B
37	Standchen, Op. 106, No. 1	Brahms	Kipnis with piano	Victor 14310-B
38	Aufenthalt	Schubert	Marian Anderson with piano	Victor 11-9836-B
39	Show Me the Way Back to Your Heart		Eddy Arnold (String band)	Victor 21-0083-B
40	Symphony No. 5 (2nd movement)	Tschaikowsky	Symphony orchestra	Victor 11-9202-A

<u>No.</u>	<u>Title</u>	<u>Composer - Arranger</u>	<u>Performer(s)</u>	<u>Recorder</u>
41	Symphony No. 6, Op. 68 (4th movement)	Beethoven	Symphony orchestra	Victor 16474-B
42	Cantata No. 4 (Part IV: Jesus Christus . . .)	Bach	Robert Shaw (Male chorus with orch.)	Victor 10-1270-B
43	Mannin Veen (Part III)	Haydn Wood	Concert band	Boosey & Hawkes 2122
44	Lousiana Hayride		Raymond Page (Dance orch.)	Victor 36381-A
45	Symphony No. 1 (2nd movement)	Brahms	Symphony orchestra	Victor 8979-A
46	Mam'selle		Frankie Laine with dance band	Mercury 5048
47	Prelude to Act I of Lohengrin	Wagner	Symphony orchestra	Victor 6791-A
48	"Il Re Pastore" from L'Amere	Mozart	Lily Pons with orch.	Columbia XC0 32809 (2nd side)

APPENDIX D

Questionnaire on Musical Background and Attitudes

Name _____ Address _____

Sex _____ Age _____ Graduate of what high school? _____

I Formal Training in Music

1. How many years of your eight or nine years in grade school did you have classroom music? _____

2. Indicate in the spaces provided how many years you participated in each of the following musical activities:

Band _____	Small instrumental _____
Orchestra _____	ensemble _____
Boys' glee club _____	Small vocal ensemble _____
Girls' glee club _____	Dance band _____
Mixed chorus _____	Other (specify) _____

3. Indicate what instruments you play (or have played) at least well enough to perform simple tunes:

<u>Instrument</u>	<u>Years played</u>
_____	_____
_____	_____
_____	_____

4. Have you ever had private voice lessons? _____
How many years? _____

5. In what musical activities not connected with school did you participate?

Describe briefly: _____

II Family Musical History

1. What members of your immediate family (especially those who were living under the same roof when you were growing up) could play an instrument, at least well enough to perform simple tunes, or liked to sing?

Family member
(father, sister, etc.)

Sang? Played? (what)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. What was your parents' attitude toward your musical training? Check one:
Positive_____Negative_____Indifferent_____
3. Was there a radio in your home?_____Phonograph?_____
Piano?_____
4. How often was music performed by you and/or your family in the home? Check one:
Hardly ever_____Fairly often_____Often_____

III Musical Attitudes

1. Everything considered, who is your favorite vocalist?

2. Everything considered, who is your favorite instrumentalist?

3. Listed below are some of the most commonly recognized types of music. Indicate with a number "1" the type you prefer most often, with a number "2" the type you prefer next most often, etc., until all the types of music have been ranked. As an example of each list the title of one piece, if you can.

<u>Type</u>	<u>Rank</u>	<u>Title of example</u>
Hymns	_____	_____
Hillbilly	_____	_____
Hot, fast, popular	_____	_____
Slow, sweet popular	_____	_____
Folk music	_____	_____
Severely classical	_____	_____
Light classical	_____	_____

4. Suppose that by some peculiar chain of circumstances you were somewhere for several years where you were completely shut off from hearing any music other

than that provided by your own voice, but that you could take with you a phonograph and five musical recordings. What five recordings would you choose? List them in the order of your preference. Please list specific titles, composers, and performers whenever possible. It should be possible to locate your choices in record catalogues, either old or new. Consider each choice as if it were the only one. Do not let previous or subsequent choices influence the choice of that particular one. Remember, this is the only music you will hear for several years. Do not list whole operas, oratorios, or even symphonies, (if some of these be your choices) but try to narrow it down to a specific section or part of these large works.

	<u>Title</u>	<u>Composer</u>	<u>Performer</u>	<u>Record maker and number</u>
1st	_____	_____	_____	_____
2nd	_____	_____	_____	_____
3rd	_____	_____	_____	_____
4th	_____	_____	_____	_____
5th	_____	_____	_____	_____

5. Everything considered, what was the concert or other musical experience which stands out in your memory as the highlight? Indicate the situation briefly and describe the music as specifically as you can. _____
- _____
- _____
- _____

IV Record Library

List the recordings you have in your record library by title, composer, (or arranger) performer, record maker and number, whenever possible. Indicate by number your three favorite recordings. These recordings may not actually be owned by you, but you should have had a part in selecting them yourself, or if selected by someone else, at least be recordings that you might have selected yourself.

APPENDIX E

The Master Sheet

Gradual change	7	Atonal	7	Alternately reg. & irreg.	0
Sudden change	8	Modal	8	C.Form:	
Both gradual & sudden	9	B.Mode:		Simple song-form	7
D.Amplitude of change in sonance:		Major	9	Complex song-form	8
Small change	10	Minor	10	Regular large form	9
Large change	11	Alternately major-minor	11	Irregular large form	10
Both small & large	12	C.Consistency of style:		D.Amount of repetition:	
SEDATION - STIMULATION		Consistent style	12	No repetition	11
A.Overall degree of sedation-stimulation:		Inconsistent style	13	Some repetition	12
Sedative	1	D.Frequency of modulation:		Much repetition	13
Mildly stimulative	2	No modulation	14	E.Abstract or programmatic:	
Stimulative	3	Little modulation	15	Abstract	14
B.Frequency of change in sedation-stimulation:		Much modulation	16	Programmatic	15
No change	4	RHYTHM		TYPE	
Infrequent change	5	A.Prominence of rhythmical pulse		Severely classical	1
Frequent change	6	Hardly apparent	1	"Popular" classical	2
C.Speed of change in sedation-stimulation:		Apparent-not pronounced	2	Semi-classical	3
Gradual change	7	Pronounced	3	Hit Parade popular	4
Sudden change	8	Extremely pronounced	4	Connoisseur's popular	5
Both gradual & sudden	9	B.Variability of the prominence of the rhythmical pulse:		Country-western	6
D.Amplitude of change in sedation-stimulation:		Consistently prominent	5	Popular sacred	7
Small change	10	Small changes	6	PERFORMANCE MEDIUM	
Large change	11	Large changes	7	Orchestra	1
Both small & large	12	C.Variability of rhythm pattern:		String orch.	2
E.Changes of polarity in sedation-stimulation:		Constant pattern	8	Band	3
Constantly increasing stimulation	13	Few changes	9	Mixed chorus	4
Constantly decreasing stimulation	14	Many changes	10	Male chorus	5
		D.Complexity of rhythm & meter:		Female chorus	6
		Simple	11	String ens.	7
		Moderately complex	12	Woodwind ens.	8
		Complex	13	Brass ens.	9
		Variable-simp. to comp.	14	Small voc.ens.	10
				Solo female v.	11
				Solo male v.	12
				Piano solo	13
				String solo	14
				Woodwind "	15
				Brass solo	16
				Accordion	17
				Hillbilly b.	18
				Dance band	19
				Organ	20
				Orch. acc.	21
				Piano acc.	22